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TAGS

Multiservice Procedures for the Theater Air-Ground System

OCTOBER 1994



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TAGS
**MULTISERVICE PROCEDURES FOR
THE THEATER AIR-GROUND SYSTEM**
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PREFACE

PURPOSE

The United States employs military power in a joint manner, with each component making a unique contribution to the joint force commander's theater campaign plan. Successful theater operations require synchronized contributions by all forces: ground, naval, air, space, and special operations. Air operations provide the JFC the opportunity to attack the enemy in depth, to control the skies over the theater of operations, and to assist component commanders with tangible, responsive air support. The TAGS is not a formal system in itself but the actual sum of various component air-ground systems. For the purpose of this manual, the TAGS refers to organizations, personnel, equipment, and procedures that participate in the planning and execution of these air operations.

Joint doctrine concerning the synchronization of land, sea, and air operations is still emerging and is the subject of debate. This manual is not intended to resolve contentious interservice/component issues, but to describe what exists today to foster a better understanding of service/component air-ground systems. It acknowledges that each theater combatant commander establishes an air-ground system based on theater requirements. The decision to appoint a joint force air component commander (JFACC) and the duties and responsibilities assigned to that position rest solely with the warfighting CINC/joint force commander (JFC). Key to the TAGS is an understanding of the process of synchronization and maximum utilization of the services' asymmetrical relationships to achieve a quick and decisive victory.

SCOPE

This publication provides a generic concept and procedures for TAGS operations. It offers readers a basic understanding of joint and component air-ground operations, the joint targeting process, and the command and decision-making process at component and joint force levels. To increase understanding, enhance working relationships, and, most importantly, foster trust and confidence among those personnel within the TAGS, it describes each of the services' air control systems, mission and warfare capabilities, and a general theater air-ground system. Since an unclassified, generic TAGS is described, practitioners in mature theaters should refer to theater manuals and special operating instructions for theater-specific procedures.

This manual has worldwide application and can serve as a model for any level of conflict. It is a "primer" for all planners to facilitate the integration of air power with ground combat operations, users who benefit from the integration, and operators who apply air power, including the joint force staff, component commanders' staffs, and all those in leadership positions in the TAGS. Commanders should tailor the TAGS concept and procedures to their particular theater of operation.

Practitioners working within the TAGS should be aware that service and joint terminology are not yet standardized. This manual uses joint terminology where appropriate except in Chapters 3 through 7, where service terminology is used. This terminology may differ in meaning among the services or components of a joint force.

APPLICABILITY

This publication provides multiservice information for combat operating forces. It can serve either as a source document for developing joint and service manuals, publications, and curricula or as a stand-alone document. Although the focus of the manual is at the joint force and component levels, it has application for planning and warfighting personnel at all echelons. The manual can be used as quick reference to component air-ground systems or as a primer for personnel newly assigned to positions within the TAGS. The manual is written for air-ground practitioners at all levels down to Air Force wing, Army battalion, naval expeditionary force, and Marine air-ground task forces (MAGTF). Although all air operations directly or indirectly impact ground operations, the TAGS focuses on close air support, air interdiction, and offensive air support.

Each of the services has schools that provide instruction on the air-ground system for members of that service. This manual serves to reinforce and expand on that instruction, not replace it.

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Unless this publication states otherwise, masculine pronouns do not refer exclusively to men.



CHAPTER 1

THE JOINT FORCE

Personnel assigned to or working with the TAGS must understand the decision processes and problems that the senior echelons in their chain of command and the other TAGS components face. With this knowledge, solutions to operational or TAGS coordination problems will be clearer. Component and subordinate commanders and staffs will better understand factors that affect the TAGS functions and how to work within the system to receive or give support. Actions at the joint force level establish the “ground rules” for the TAGS, including the CINC’s guidance, perspective, and area strategy; the JFC’s theater strategy; command organization and relationships; the campaign plan; assignment of missions and tasks; and apportionment of forces. This chapter summarizes the theater-level considerations and organizational options that influence theater air-ground operations. It describes the role of the JFC and the JFACC; the role and organization of the joint force headquarters staff; command relationships; specific TAGS functions that are performed at the joint level; and TAGS joint liaison requirements.

THE JOINT FORCE COMMANDER

If the theater combatant commander decides to delegate authority for an assigned mission, he normally selects a subordinate joint task force (JTF). The commander of the JTF is the JFC. In this manual, *JFC* means either a theater combatant commander or a subordinate who is designated a joint force commander. The term *combatant commander* is used when only combatant command (COCOM) (command authority) is appropriate.

The JFC’s task is to integrate and synchronize the available capabilities of air, land, sea, space, and special operations forces to achieve the combatant commander or the National Command Authorities’ (NCA) objectives. JFCs organize forces and establish command relationships to accomplish their missions based on their vision of the requirements necessary to achieve certain goals. Key conceptual considerations for the development of the joint force organization are unity of effort and command, centralized planning, and decentralized execution.

The JFC will organize the JTF and oversee the formation of a joint staff, who provides the JFC knowledge of the doctrine, tactics, techniques, and procedures, as well as the capabilities and limitations of the joint force components. The combatant commander will give the JFC authority required—normally operational control (OPCON)—to fulfill the assigned mission. The JFC will delegate the required level of authority—OPCON, tactical control (TACON), and so forth—to subordinates. The JFC will be assigned forces, will develop a campaign plan, will assign broad missions and responsibilities, will establish command relationships, and will task subordinate commanders. The JFC retains responsibility for certain planning and force integration activities that influence TAGS, namely, the apportionment decision and the interdiction target prioritization process.

THE JOINT FORCE AIR COMPONENT COMMANDER

Although functional competency can apply to all joint force capabilities, when considering theater air operations as a whole and the TAGS specifically, the role of a JFACC requires specific attention. The JFACC’s primary purpose is to coordinate the use of joint air power for the benefit of the joint force as a whole in support of JFC objectives.

The JFACC, who will normally be the service component commander having the preponderance of air assets and the capability to control and di-

rect joint air operations, derives authority from the JFC. The JFACC’s responsibilities normally include, but are not limited to, planning, coordination, allocation, and tasking based on the JFC’s apportionment decision. Using the JFC’s guidance and authority, and in coordination with other component commanders, the JFACC will recommend to the JFC apportionment of air sorties to various missions or geographic areas. Following the JFC’s apportionment decision, the JFACC allocates apportioned air sorties to the functions, areas, and/

or missions they support (see Chapter 7). With advice from the component commanders, the JFC decides the number of sorties that will be made available to the JFACC.

Although every component commander is responsible for conducting operations to achieve assigned objectives, they may be tasked simultaneously to provide capability needed by the JFACC to support the joint force as a whole. The Omnibus Agreement (Chapter 5) recognizes this principle. The JFACC supports the other components as directed. Although the JFC may delegate OPCON to functional component commanders, TACON or support relationships normally provide sufficient authority to conduct JFACC and TAGS operations.

PLANNING, ALLOCATING, AND TASKING

In coordination with the other component commanders, the JFACC will plan and allocate sorties and tasks to execute joint air operations. The JFACC's plan will be based on the JFC's objectives, concept of operations, and the capabilities of available forces. To assist in preparation and execution, the JFACC's staff should be formed early during the planning process. The JFACC's air operation center (AOC) is the theater's senior air operation center with other component liaison and a specially formed joint planning and operation staff. The JFACC will normally meet regularly with the JFC, the other component commanders, subordinate JFCs, and supported and supporting commanders to review ongoing operations.

COORDINATION

By structuring the JFACC with a joint staff, the information on individual service doctrine, tactics, techniques, and procedures, weapons systems employment, and planning expertise is more readily understood. The addition of liaison elements within the JFACC structure provides a necessary real-time operational interface with the individual components. The JFACC, in coordination with other component commanders, will recommend to the JFC apportionment of the joint air effort. The JFACC will use the JFC's target prioritization guidance and consider specific component requirements during formulation and coordination of the apportionment recommendation. The JFACC allocates available sorties and missions based on the JFC's guidance. The JFC will

normally designate standardized planning cycles to be used by the functional and service components to enhance operational coordination and integration. Based on current force capabilities, JFC apportionment guidance, component support requirements, and targeting guidance, the JFACC, in coordination with the service component commanders and functional commanders assigned to the joint force, will develop the daily plan for joint air operations. The JFACC will task, monitor execution of the plan, and redirect efforts as required.

AIR INTERDICTION

JFCs pay particular attention and give priority to activities impinging on and supporting the maneuver of forces. In addition to normal target nomination procedures, the JFC will establish procedures through which the land and naval force commander can specifically identify those interdiction targets they are unable to strike with organic assets within their boundaries that could affect planned or ongoing maneuver. These targets may be identified individually or by category, specified geographically, and/or tied to desired effects and time periods. The purpose of these procedures is to afford added visibility and allow the JFC to give priority to targets directly affecting planned maneuver by land or naval forces. Normally, the JFACC staff or a designated targeting organization (discussed later in this chapter) will develop a prioritized air interdiction target list based on theater-wide priorities and those within the land and naval force boundaries as related by the JFC's apportionment decision. The JFACC will use these priorities to plan and execute the theaterwide air interdiction effort.

JOINT FORCE AIR COMPONENT COMMANDER AT SEA

A need is recognized for a naval component to function as the JFACC at sea, especially in quick-breaking operations prior to the introduction of, or not requiring significant, land-based air contingents. To ensure that their forces are prepared to meet these contingencies, the combatant commanders of the Pacific and Atlantic Commands have published procedures for JFACC operations in their theaters. These procedures provide for predesignated joint staffs and detail procedures for target nomination, apportionment, and changes to the apportionment decision.

THE JOINT FORCE HEADQUARTERS STAFF

JFCs organize staffs to assist them and their subordinate commanders in planning and conducting operations. The JFC's staff involvement in operations may vary greatly according to the desire of the JFC, the size of the force, and the nature and maturity of available C² systems. The organization of the staff will depend upon the tasks and responsibilities retained at joint force command level. The joint headquarters' composition, location, and facilities will have a major influence on what the JFC and staff can accomplish.

A joint force staff normally consists of a chief of staff, a commander's personal staff group, traditional "J" directorates, and special staff agencies and supporting liaison elements. The staff transforms the JFC's vision and directions into campaign and operations plans and orders for the commander's approval and subordinate commanders' execution. The staff also closely monitors the conduct of component operations and routinely informs the JFC of joint force activities. The normal points of contact for TAGS activities at the joint force headquarters are the joint intelligence center (JIC) and the joint operations center (JOC).

JOINT INTELLIGENCE CENTER

The J2 will provide intelligence for planning, directing, and conducting operations once the commander determines and approves their objectives, nature, and scope. The JIC is the center of the intelligence activities supporting the J2 and JFC. JIC support to the components includes identifying and coordinating assignment of and augmentation by specialized intelligence personnel and communications systems. The J2 controls an intelligence communications net required for connectivity and interoperability between the JIC, subordinate elements, and the national intelligence community. J2 staff elements plan and direct joint force intelligence activities, while the JIC engages in production and dissemination of strategic and operational intelligence for the command. The JIC will normally be collocated with or near the JOC. Specific J2 activities that support the TAGS are discussed in Chapter 7.

JOINT OPERATIONS CENTER

The JOC staff closely monitors progress of the components' offensive and defensive operations for the JFC. It conducts J3 activities and participates in joint target prioritization, joint force deception

planning, psychological operations, development of deconfliction measures, fratricide prevention planning, and combat assessment (CA). The JOC staff is the focal point in the joint headquarters for monitoring and facilitating TAGS activities. Consolidation, staffing, and presentation of the component commanders' apportionment recommendation to the JFC occurs at the JOC. The JFC's apportionment decision and targeting guidance are prime decision factors impacting the TAGS and should be common knowledge in the JOC. They ensure that the weight of the TAGS and the entire theater air effort is consistent with campaign phases and objectives. Subordinate command staff TAGS interface with the joint force is accomplished through the JOC or JIC.

J2, INTELLIGENCE DIRECTORATE

The JFC conducts a continuing interactive process to develop and refine inputs for targeting and operations. The J2, in conjunction with the J3, has pivotal responsibilities, both in supporting the commander and in interacting with other headquarters staff sections. The J2 is deeply involved in target detection, development, and CA for operations conducted through the TAGS. The J2 is responsible for—

- Providing timely and complete intelligence on the characteristics of the mission area, including the threat's current and expected activities and capabilities.
- Helping the JFC translate the assigned mission, estimate of the situation, and objectives into intelligence information requirements.
- Apprising the JFC of intelligence capabilities and limitations and the potential effects on operations.
- Directing the JFC's intelligence staff and operating the JIC.

J3, OPERATIONS DIRECTORATE

Responsible for organizing the operational aspects of the joint force headquarters, the J3 provides recommendations for joint force organization, offensive and defensive operations, training, and rules of engagement. Staff supervision, or cognizance, is exercised over all joint force operations for the JFC. The JFC will normally direct the organization of a JOC to serve as a focal point for

operational matters. JOC functions include force and resource monitoring and management, planning, direction, monitoring execution, situation reporting, and evaluation of TAGS operations. The J3 is responsible for the operation of the joint reconnaissance center and joint rescue center, as well as the joint commander's command and control warfare (C²W) staff, which plans, coordinates, and integrates joint force electronic warfare with other combat disciplines. The J3 influences TAGS operations through staff participation in the apportionment and target prioritization process.

J5, PLANS AND POLICY DIRECTORATE

The J5 assists the JFC by staffing theater strategy and transforming the JFC's vision into campaign, operations, or outline plans. The J5 sup-

ports TAGS activities while participating in joint targeting coordination board (JTTCB) actions and JOC activities.

J6, COMMAND, CONTROL, COMMUNICATIONS, AND COMPUTER SYSTEMS DIRECTORATE

The TAGS is communications-intensive. The requirement to transmit the air tasking order and other TAGS-related messages requires sophisticated and redundant communications. J6 responsibilities include planning and providing communications and frequency management, including promulgation of the command communications electronics operations instructions required for theater operations. J6 personnel also impact TAGS operations through participation in JTTCB, J2, and J3 activities.

COMPONENT COMMANDS

The combatant commander exercises COCOM through one or a combination of organizational options, including service components and functional components that report directly to the combatant commander; subordinate unified commands or JTFs, each with subordinate components; or direct combatant commander control over single-service forces or specified operational forces. Single-service forces and specified operational forces will use the air-ground system of the parent service component or as directed by the JFC. The selected organizational structure is based on the nature and scope of the mission and the capabilities of the forces assigned. Theaters are normally structured with a combination of organizations as depicted in Figure 1-1. While joint forces will always have service components, they may be organized with a combination of service and functional components along service or functional lines.

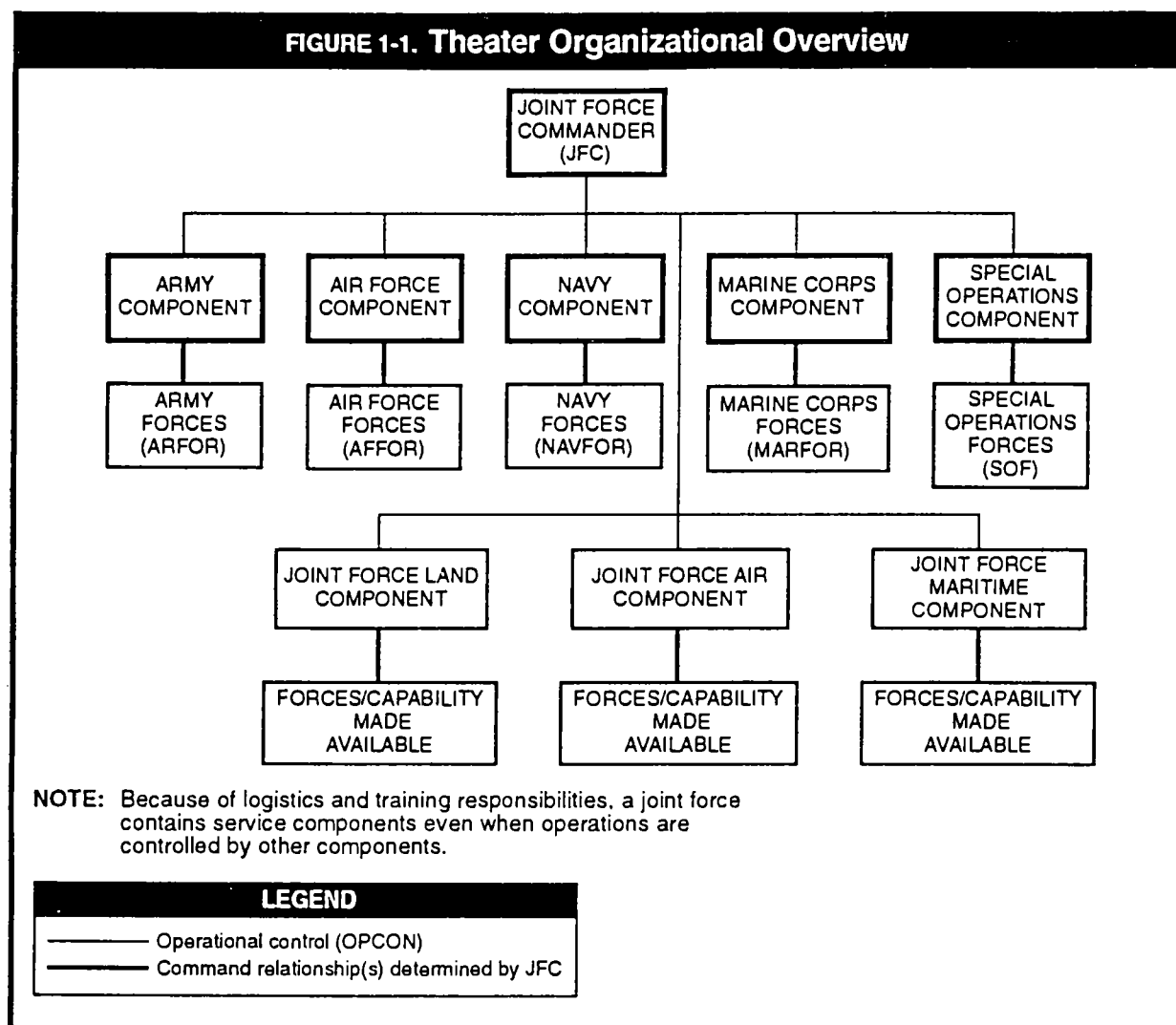
SERVICE COMPONENT COMMANDS

A service component command consists of the service component commander and all those individuals, units, detachments, organizations, and installations of that service that are under his command and have been assigned to the unified command. Other individuals, units, detachments, organizations, or installations may operate directly under the service component commander. Commanders are responsible for continued training, administration, and logistics support of assigned forces. They advise the JFC on the capabilities of their forces. Normally, the JFC plans campaigns

in conjunction with advice from subordinate component commanders to ensure that the best available specialized expertise and combination of forces are brought to bear. In concert with the JFC, each component commander develops operation plans that support the campaign plan. The JFC and component commanders' plans and TAGS operations are executed and controlled through integration of the individual component and joint force command, control, communications, and computer systems.

FUNCTIONAL COMPONENT COMMANDS

JFCs may organize functional components when service components possess similar capabilities and are required to operate in the same general area, dimension, or medium. Functional component commander responsibility will generally be assigned to a service component commander. The nature of operations, mix of service forces, and command and control capabilities are normally primary factors in selecting the functional component commander. The JFC will designate specific command authority, amount and type of assets to be made available for tasking, and missions assigned to a functional component commander. A functional component commander exercises assigned command authority through the respective service component commanders. JFCs and functional component commanders must be sensitive to individual service operational and logistics capabilities. The JFC normally directs that functional component commanders be provided a

FIGURE 1-1. Theater Organizational Overview

joint staff, which provides knowledge of the doctrine, tactics, techniques, and procedures, capabilities, requirements, and limitations of the individual components of the force. Service representation and influence on the functional component commander's staff should reflect the service composition of the force. Functional component commanders use parent service command, control, communications, computers, and intelligence capabilities and liaison elements to coordinate with

the other elements of the joint force to accomplish assigned missions. A clear distinction must be made between the functional component commander's staff and liaison groups. The staff works for the functional commander as area experts and/or action officers who coordinate with the components. The liaison officers (LNOs) and their staffs work for their respective component commander as the commander's representative to the functional component commander.

TARGETING ORGANIZATIONS

Targeting is the process of selecting targets and matching them with the appropriate response, lethal or nonlethal, disruptive and destructive. This is done in accordance with the JFC's cam-

paign plan, taking account of operational requirements and capabilities and assessing the effects of the operation against specified targets. Targeting is performed at all levels within the joint force.

It is complicated by the requirement to deconflict potential duplicative efforts by different echelons within the same force and to synchronize the attack of those targets with other activities of the joint force. The JFC may establish organizations to accomplish broad targeting oversight functions. They are the joint targeting steering group (JTSG) and the JTCB.

JOINT TARGETING STEERING GROUP

A combatant commander may convene a JTSG to conduct strategic planning outside a subordinate JFC's joint operating area and to integrate into the joint campaign special technical operations/national assets not under a subordinate JFC's OPCON. If no special technical operation/national asset is represented on the subordinate JFC staff, the JTSG may provide the JFC with detailed planning for the employment of compartmented systems.

JOINT TARGETING COORDINATION BOARD

JFCs may task an organization within their staffs to accomplish broad targeting oversight functions or may delegate the responsibility to a

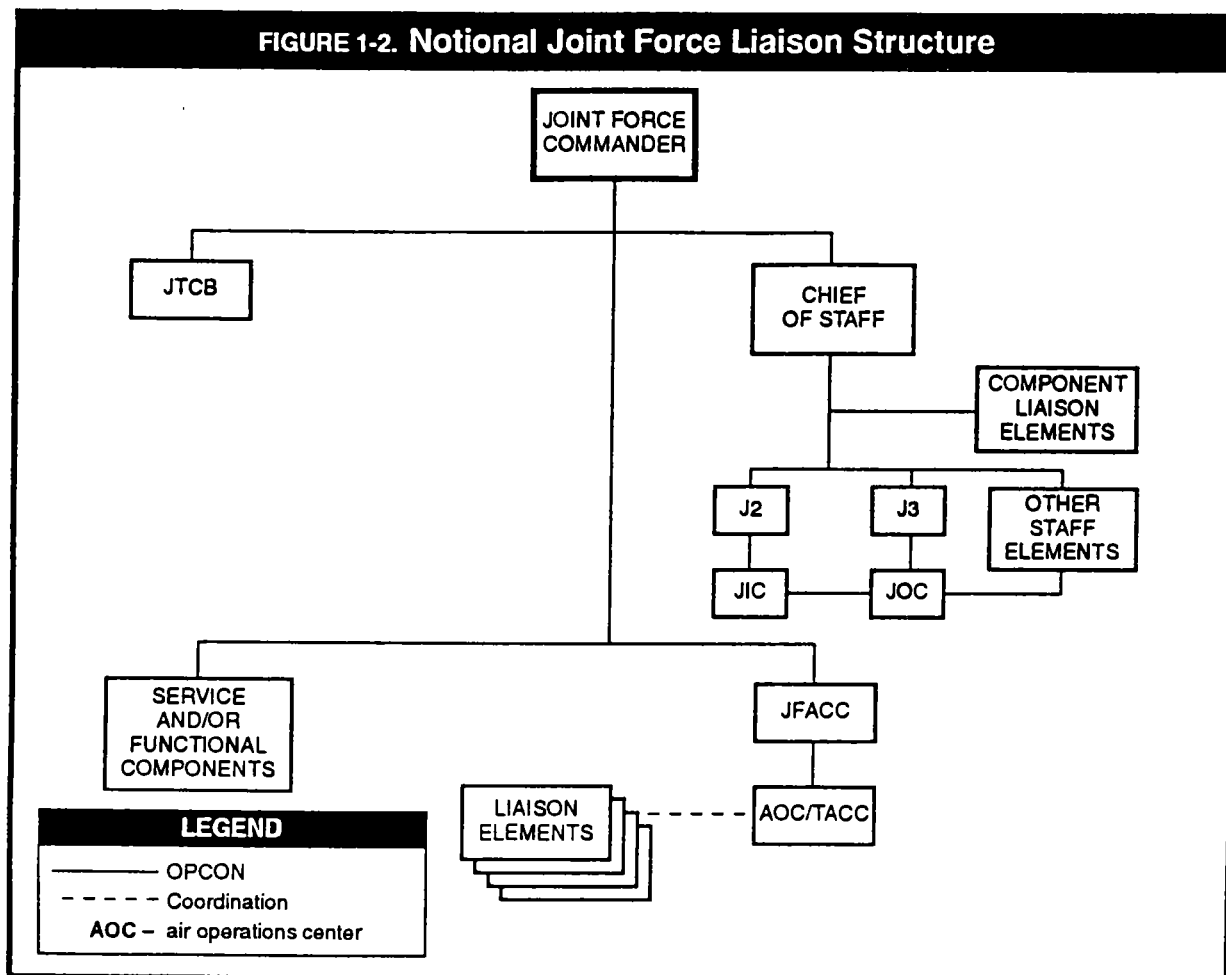
subordinate commander. If the JFC so designates, a JTCB may be established as an integrating center for this effort or a JFC-level review mechanism. In either case, it needs to be a joint activity, composed of representatives from the staff, all components, and, if required, their subordinate units. The JTCB reviews target information, develops target guidance and priorities, and may prepare and refine joint target lists. The JTCB should also maintain a complete list of restricted targets and areas where special operations forces are operating to avoid endangering current or future operations. In theaters where JTCBs are established, meetings normally are conducted daily to disseminate JFC targeting guidance and objectives, to monitor the effectiveness of operations, to validate no-fire areas, and to approve new target nominations for inclusion in the joint target list. In multinational operations, the JTCB may be subsumed by or subordinate to a combined targeting coordination board, with JFCs or their agents representing the joint force on the combined board. In any case, this broad targeting oversight is a joint process reflecting JFC guidance and objectives and involving all applicable subordinate commands.

JOINT LIAISON REQUIREMENTS

Effective liaison between forces is essential for coordinated TAGS operations and is a key factor in the success of joint actions. A notional joint force liaison structure is depicted in Figure 1-2. LNOs provide eyes and ears as well as representation of their parent commanders' capabilities and limitations at those levels of command where the commander must continually be involved but is seldom able to visit. The JFC and component commanders will exchange liaison elements to assist and coordinate planning and execution of TAGS operations. Functional component commanders, who are also service component commanders, will

use parent service liaison elements. The JFC's selection of command organizational options may impact the ability of the components to exchange liaison elements. The JFACC may be ashore or afloat. If afloat, space and communications limitations may restrict liaison element size and capability. Due to the fleeting nature of opportunities for decisive action, LNOs need to have clearly defined parameters to take action and make decisions on operational matters. This capability will allow them to take full advantage of these opportunities. Service component liaison elements are discussed in detail in succeeding chapters.

FIGURE 1-2. Notional Joint Force Liaison Structure



Critical in the first stages of crisis management or in the establishment of the joint task force is the early assignment of duties and responsibilities to the component commanders and the joint staff. The assignment of responsibilities such as the JFACC, the airspace control authority (ACA), and area air defense commander (AADC) allows maximum time to coordinate and plan operations. The early establishment of JTCB, JIC, and JOC allows all commands to become thoroughly familiar with procedures and ensures that adequate information will flow both up and down the chain of command.

CHAPTER 2

ARMY COMPONENT

This chapter provides an understanding of the process of synchronizing and integrating Army operations with the TAGS. It discusses employment of Army ground forces in combat operations, targeting, air power in support of ground operations, and the Army Air-Ground System (AAGS).

MISSION

The Army component's function is to engage in ground combat or in military operations other than war in support of the JFC's campaign plan. Modern ground combat by its very nature can be expensive in terms of lives lost and equipment de-

stroyed. The willingness to engage in ground combat is seen by many as the ultimate expression of national will and determination. Air support can be used to enhance the effectiveness and tempo with which ground forces accomplish their mission.

COMPONENT OPERATIONS

Army component operations are inherently joint and may be multinational. Army doctrine recognizes the teamwork required and the extension of the battlefield in time, space, and purpose through all available resources and campaign design. Army forces must be prepared to conduct varied operations with various government agencies, other services, and the forces of other nations. Army doctrine and systems, especially command and control (C²) and targeting, are designed to expedite the employment of organic fires and supporting forces to enhance the effects of maneuver. Fundamental to operating successfully is an understanding of Army doctrine: the principles of war, the tenets of Army operations, the combined arms concept, the dynamics of combat power, and battle space. FM 100-5 is the Army's keystone warfighting doctrine.

PRINCIPLES OF WAR

The nine principles of war—objective, offensive, mass, economy of force, maneuver, unity of command, security, surprise, and simplicity—are the bedrock of Army doctrine on which every operation is based.

TENETS OF ARMY OPERATIONS

The operational tenets—initiative, agility, depth, synchronization, and versatility—are the basis of current doctrine, tactics, and techniques. Success on the battlefield depends on the Army's ability to fight in accordance with these basic tenets. The TAGS assists the Army commander in

the implementation of all five tenets, especially depth and synchronization.

DEPTH. A commander thinks in terms of depth when considering the three parameters of time, space, and resources. Through the use of depth, a commander obtains the necessary space to maneuver effectively; the necessary time to plan, arrange, and execute operations; and the necessary resources to win. The TAGS helps Army commanders attack the enemy simultaneously throughout their battle space by facilitating the required coordination and deconfliction. At the operational level, commanders, in conjunction with air, naval, and special operations (SO) forces, employ maneuver and fires to attack enemy units, facilities, and communications throughout the theater and force the enemy to fight on their terms. In tactical actions, commanders fight the enemy throughout the depth of their dispositions with organic and non-organic fire assets. Operations in depth degrade the enemy's freedom of action, reduce flexibility and endurance, and upset plans and coordination.

SYNCHRONIZATION. Arranging activities in time and space to mass at the decisive point is *synchronization*. It is both a process and a result and includes the actual massed effects of forces and fires at the point of decision. Some synchronization activities, such as jamming operations, suppression of enemy air defenses, or shifting of reserves, may take place before or at locations far distant from the decisive point. Synchronization requires explicit coordination and unambiguous

unity of purpose among the units and services participating in any operation. In the end, the product of effective synchronization is maximum economy-of-force and overwhelming combat power. The TAGS is a tool that assists the Army commander in synchronizing available resources in time and space.

THE COMBINED ARMS CONCEPT

The Army fights using a combined arms team concept. Combined arms is the simultaneous application of Army forces—combat, combat support, and combat service support—with elements of other services. While fighting as a combined arms team, the Army attempts to coordinate and integrate certain combat functions to synchronize battle effects in time, space, and purpose. The Army refers to these combat functions as battle-field operating systems (BOS). These functions are maneuver, fire support, air defense, battle command, intelligence, mobility and survivability, and logistics. The fire support function includes interdiction and close air support (CAS) provided by other components through the TAGS. By following the principles of war, applying the operational tenets, synchronizing the BOS, and fighting as a combined arms team, the commander overwhelms the enemy's ability to react and generate combat power.

COMBAT POWER

Overwhelming combat power is the ability to focus sufficient force to ensure success and deny the enemy any chance of escape or effective retaliation. To win in battle, the commander must anticipate future operations and apply the dynamics of combat power. Cooperation with Air Force, Navy, Marine Corps, SO components, and allies; understanding the capabilities of each arm and service; and the complementary and reinforcing effects of combined arms and sound tactics generate combat power. The TAGS assists in creating combat power by providing a necessary command, control, communications, computer, and intelligence (C⁴I) framework that facilitates the synchronization and integration of maneuver and firepower and assists in the protection of ground troops.

MANEUVER. Maneuver is the movement of combat forces to gain positional advantage, usually in order to deliver, or to threaten delivery of, direct and indirect fires. It is the means of concentrating forces at decisive points to achieve sur-

prise, psychological shock, and physical momentum. Positional advantages gained by ground forces are unique to maneuver warfare and cannot be substituted by firepower.

FIREPOWER. Firepower provides destructive force and is essential to defeating the enemy's ability and will to fight. It may be integrated as part of the commander's concept or may be used separately to destroy, delay, or disrupt the enemy's critical capabilities and uncommitted forces. Maneuver and firepower are complementary dynamics of combat. Although one might dominate a phase of the battle, the synchronized effects of both characterize all operations. The commander combines maneuver with air-, surface-, and sea-launched firepower to destroy the enemy.

PROTECTION. Protection conserves the fighting potential of a force so commanders can apply it at the decisive time and place. The prevention of fratricide—the unintentional infliction of casualties of our own or friendly forces by friendly fire—is a crucial element of TAGS. Strong command, disciplined operations, and detailed situational awareness are the primary ways to limit fratricide. In the TAGS, continuous and aggressive involvement by liaison officers ensures the avoidance of mistakes that cost friendly lives. The TAGS also provides the troops protection from enemy air attacks by assisting the commander in coordinating and supplementing available air defense assets and by allocating aircraft for TMD attack operations.

BATTLE SPACE

Battle space is the three-dimensional space in which commanders visualize conducting combat operations over time. This vision, along with battlefield organization, becomes the framework from which the commander's intent and concept of operation are derived.

Understanding battle space allows commanders to synchronize combat power against the enemy and to keep the enemy from extending his own battle space to its greatest range. This helps commanders determine how they might task-organize and position their units. By visualizing operations to disrupt the enemy in depth, commanders can synchronize operations to disrupt him, to throw him off balance, to attack his functions, and to set the conditions for decisive victory. Synchronizing, sequencing, and phasing of the battle within the battle space are critical to success.

Battle space is further subdivided into activities conducted in terms of *close*, *deep*, and *rear* operations. Synchronizing these operations is a complex undertaking requiring a clear understanding of the commander's intent while allowing for both command and staff initiative.

- Forces in immediate contact with the enemy fight *close* operations. At the operational level, close operations are the current battles of the corps and divisions. At the tactical level, they include the engagements fought by brigades and battalions. The close operations of a corps include the deep, close, and rear operations of its committed divisions or separate brigades. Time becomes a critical factor in defining the limits of the close battle. A battalion's close battle is usually within physical sight of the commander and within 6 hours, while the Army component commander may fight a close battle with a time scale in excess of 96 hours and extending 150 kilometers into the enemy rear. Each echelon's commander must define the close battle.

- *Deep* operations set the terms for future close operations. They are conducted simultaneously with close operations to increase the tempo at which the enemy is destroyed and defeated. Successful deep operations may negate the need for decisive close operations. The preference is to defeat the enemy by fighting close and deep simultaneously throughout the depth of the battle space. Deep operations involving air-ground systems potentially provide the greatest challenge of synchronization for the ground commander because of the extended distances that tax communication links and control mechanisms. The ground commander will define his deep battle in terms of time, distance, and the effects he wishes to achieve to shape the close battle.
- *Rear* operations help the commander ensure freedom of action and continuity of operations, logistics, and C². The primary purpose is to sustain the current deep and close fight and posture forces for future operations.

TARGETING

Targeting represents a key element in the Army's participation in the TAGS process. Referring to FM 6-20-10, the Army commander uses targeting to shape his battle space and to synchronize fire support and maneuver. It enables him to attack the right target with the best weapon at the right time.

The Army and the Marine Corps define targeting as the process of identifying enemy targets for possible engagement and determining the appropriate attack system to capture, destroy, degrade, or neutralize them. Emphasis is on identifying resources that the enemy can least afford to lose, degrading the enemy's ability to take the initiative, and forcing the enemy to conform to friendly battle plans. A target may be an enemy function, formation, facility, equipment, or piece of terrain. The selection of targets must support the ground commander's battle plan and reflect intentions for the operation. The targeting process requires coordination among multidisciplined groups, which include fire support, intelligence, operations, planning cell, and liaison personnel.

THE TARGETING PROCESS

The targeting process begins with the receipt of a mission and continues through development

and execution of an operations plan. It focuses on developing a priority target list, which specifies which targets are to be acquired and attacked and when, what is required to defeat them, and which ones should be selected for deliberate follow-up attack and/or CA. From this list, the commander decides which attack option or combination of options he will use and if he will request support from other components of the joint force. Therefore, the process not only supports the commander's operational intent, but also helps in selecting the method for attacking the target and identifying who will conduct the attack.

THE TARGETING FUNCTIONS

The Army and Marine Corps use a proactive methodology to conduct targeting called *decide-detect-deliver-assess*, which is applicable to all targeting situations and any echelon of command.

DECIDE. The decide function provides the focus and priorities for intelligence collection management and attack planning. Decisions include which targets should be acquired and attacked, where and when they will most likely be found, who can locate them, how they should be attacked, and whether CA is required. To assist the com-

mander in deciding what should be attacked, his staff uses a process called intelligence preparation of the battlefield (IPB) and performs target value analysis (TVA).

Intelligence Preparation of the Battlefield. IPB, a continuous, systematic approach to analyzing the enemy, weather, and terrain in a specific geographic area, is a starting point for the targeting process. It evaluates threat capabilities and predicts enemy courses of action with respect to specific battlefield conditions in all three areas of the battlefield: deep, close, and rear.

Target Value Analysis. TVA links the effects of attacking a target directly to the target's function and involves detailed analysis of enemy doctrine, tactics, equipment, organization, and expected behavior. TVA listings indicate which targets are important, which are most vulnerable, and when and where they are most vulnerable. Through TVA, the commander's staff identifies high-value targets (HVTs)—those assets that the enemy commander requires for the successful completion of a mission. They are used during wargaming and situational scenarios to identify which particular targets in specific situations should have the higher priority for attack. If an HVT can be acquired, if it supports the commander's scheme of maneuver, and if it can be attacked, the commander's staff might nominate that target as a high-payoff target (HPT). HPTs are those targets that, if successfully attacked, would contribute substantially to the success of the commander's plans. Once HPTs have been identified and nominated, they are formed into a list, which identifies them for a specific point in the battle in order of priority. The completed HPT list is submitted to the commander and, when approved, becomes

a formal part of the fire support plan. It is then passed to the units and targeting elements. (For more information on the IPB process or target value analysis, see FM 34-130.)

DETECT. Detect, the next function in the targeting process, maximizes all available assets, ensuring that appropriate sensors are in position at prescribed times to search for specific HPTs. When detected, target location is communicated to the command elements for confirmation of the attack decision or directly to an attack system as an attack trigger event. The intelligence section (G2/S2) is the main staff element directing the effort to detect targets identified in the decide function. The focus is on the high-payoff target list developed during that function.

DELIVER. The attack of targets must satisfy the guidance developed in the decide function, requiring a number of tactical and technical decisions and actions. The tactical decisions include the time of attack, the desired effects, and the specific attack system to be used. The technical decisions include the precise delivery means, the number and type of munitions, the unit to conduct the attack, and the attacking unit's response time. In the case of joint operations, this function normally involves recommendations to the component making the attack to optimize the desired effects for the component requesting the attack.

ASSESS. CA is a timely and accurate estimate of damage resulting from the use of military force, either lethal or nonlethal, against a target. As a part of the targeting process, CA specifically pertains to the results of attacks on targets designated by the commander. Although primarily an intelligence function, it requires extensive coordination with operational elements to be effective.

AIR POWER IN SUPPORT OF GROUND OPERATIONS

The Army does not fight as a unilateral force. It integrates and synchronizes its efforts within its battle space with the other service components to enhance operational capabilities. Various forms of air support are provided from both organic and external sources. Both fixed- and rotary-wing air support are capable of quickly reaching and moving throughout the depth and breadth of the battlefield. The mobility and flexibility of air power aid the combined arms commander in seizing or retaining the initiative and generating combat power.

AIR OPERATIONS

Army doctrine discusses four primary types of air operations: strategic attack, counterair, air interdiction, and CAS. Control of the air enables land forces to execute operations without interference from enemy air forces and maintain tactical flexibility. Enemy strengths in terms of forces, supplies, and combat reserves are most vulnerable to air attack when concentrated before dispersing to their battle areas. While the urgency of enemy actions may require direct attack against forces in contact, air power is more efficiently used

to interdict in depth those targets whose destruction, disruption, or delay will deny the enemy the time and space to employ forces effectively. A synchronized, systematic, and persistent plan of attack between air and land commanders is essential. Air component missions that contribute most directly to land operations are counterair, CAS, air interdiction, SO, airlift, and surveillance and reconnaissance. They are addressed in Chapter 3. The land forces also contribute to air operations by providing fires, including long-range rocket, missile, and cannon interdiction, attack helicopter missions, and electronic warfare. Long-range fires support suppression of enemy air defenses (SEAD), ground base defense, and attacks and interdiction of enemy aviation and theater missile forces.

ARMY AVIATION

Army aviation performs the full spectrum of combat, combat support, and combat service support missions. Aviation units destroy enemy forces by fire and maneuver, perform target acquisition and reconnaissance, enhance C², and move combat personnel, supplies, and equipment in compliance with the scheme of maneuver. C² of Army aviation rests with the unit commander to whom they are organic, under operational control, or attached. Coordination between the ground force staff and the aviation unit concerned ensures that the commander's intent is established concerning fires and fire planning, munitions, liaison, communications, and positioning. In the area of fire or ground support, Army aviation functions in the following roles:

- Aerial forward observation. Army aviation can provide aerial observation or transport field artillery forward observers to vantage points where they can direct or provide terminal control for the attack of targets.
- Air reconnaissance. Air reconnaissance units obtain and report near-real-time and real-time intelligence information that is used for fire support targeting.
- Electronic warfare (EW). Fixed- and rotary-wing aircraft provide a variety of EW support, including direction finding, electronic combat, communications intercept, and electronic target acquisition.
- Aerial mine delivery. Assault helicopter units have the ability to deliver a variety of scatterable antitank and antipersonnel mines.
- Air assault. Air assault operations deliver combat forces directly into close combat situations during both day and night, in close, deep, and rear operations areas. Air assault operations are tied directly to the ground tactical plan.
- Air movement of weapons systems and/or ammunition. Cargo and utility aircraft offer both speed of movement and flexibility for the employment of fire support units. They provide the commander another alternative to fire support for deep operations or a rapid reaction to rear battle situations.
- Attack helicopter operations. Normally, attack helicopters are employed as maneuver forces in combined arms operations to accomplish the commander's missions. In addition to their role as a member of a closely integrated ground maneuver combat arms team, attack helicopters must be capable of providing CAS when tasked. They are ideally suited for situations in which rapid reaction time is important or where terrain restricts other ground forces and they can operate effectively in the deep, close, and rear battles. Attack helicopters can also contribute to joint counterair and theater missile defense through offensive and defensive counterair operations and attack operations against theater missile launchers.
- Command and control for joint air attack team (JAAT) operations. JAAT missions are conducted to enhance the effectiveness of both fixed- and rotary-wing attack platforms by maximizing the strengths of each platform in relation to the enemy. These operations require detailed coordination among components. Upon receipt of a JAAT mission, the Army aviation commander assumes responsibility for the coordination and execution of JAAT operations.

THE ARMY AIR-GROUND SYSTEM

The Army's control system for synchronizing, coordinating, and integrating air power with the

commander's scheme of maneuver is the AAGS. The AAGS provides the means to initiate, receive,

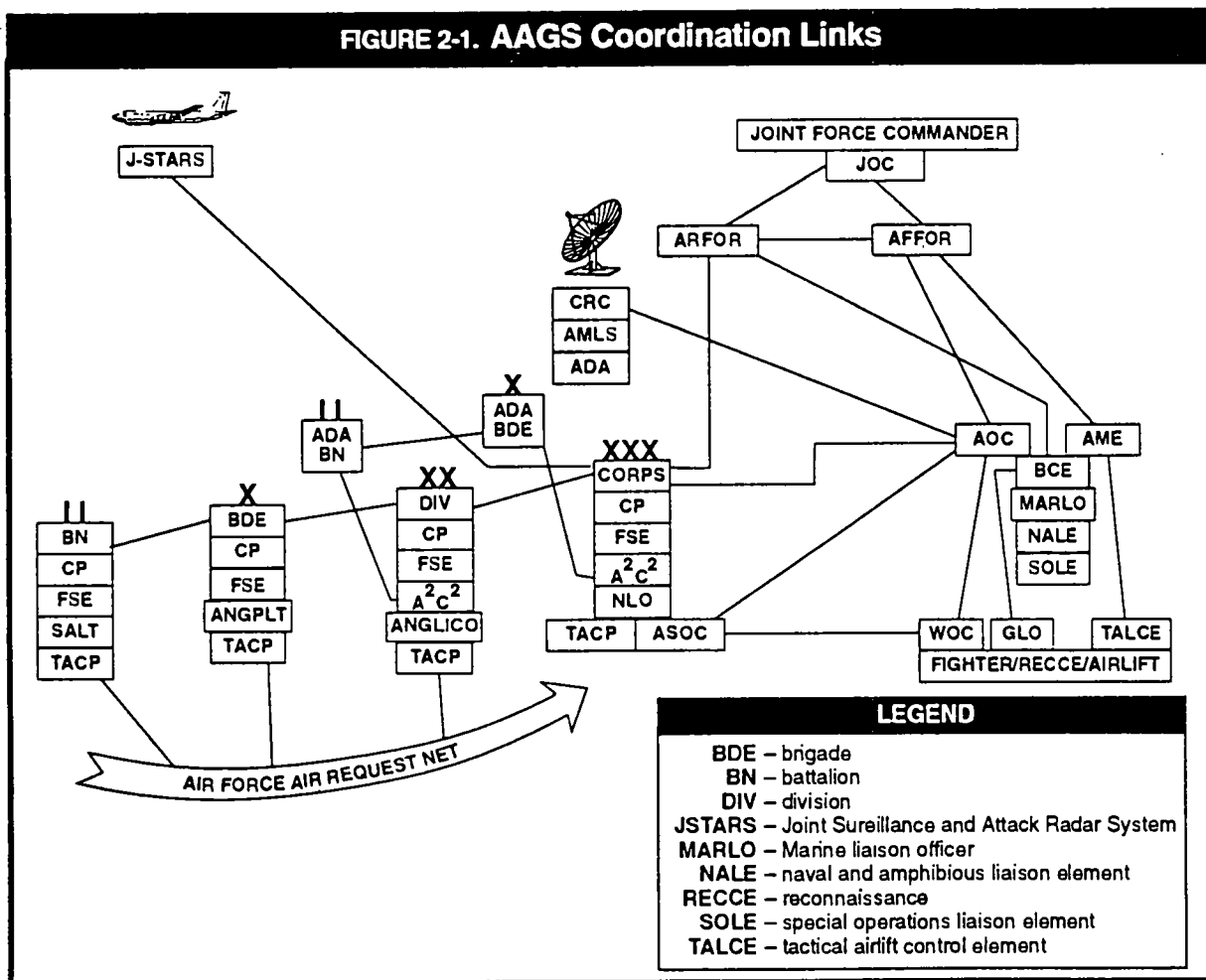
process, and execute requests for air support and to disseminate information and intelligence produced by aerial assets. Although AAGS components and agencies belong to different services and sometimes to different nations, they function as a single entity in planning, coordinating, deconflicting, and integrating air support operations with ground operations. The Army elements of the AAGS consist of operations, fire support, air defense, C², and liaison and coordination (Figure 2-1). The term *Army airspace command and control* does not denote that any airspace contiguous to the battlefield or any other geographical dimension of airspace is designated Army airspace. Neither does it imply command of any asset that is not assigned or OPCON to an Army commander. Each Army component of the system is designed to operate with an element of the Air Force's Theater Air Control System (TACS) but is also com-

patible with both the Navy and Marine Corps air control systems.

OPERATIONS

In operations with other components, adjustments are made for service operating procedures. At each Army command echelon down to division level, the commander is responsible for integrating fire support, deconflicting the airspace within the concept of the operation, and coordinating air support as required. Synchronization begins by determining the desired effect or outcome to be achieved. The AAGS is the Army's operational approach to accomplishing the functional activity of airspace C². The G3 (S3) is responsible for general staff supervision of all Army component air-ground operations except combat service support airlift, which is the responsibility of the G4 (S4), and air reconnaissance and surveillance, which is the responsibility of the G2 (S2).

FIGURE 2-1. AAGS Coordination Links



FIRE SUPPORT

Fire support is the collective and coordinated use of indirect-fire weapons, armed aircraft, and other lethal and nonlethal means in support of a commander's battle plan.

THE FIRE SUPPORT SYSTEM. The commander employs the fire support system to support the scheme of maneuver, to mass firepower, and to delay, disrupt, or destroy enemy forces in depth. The principles that guide the creation of the fire support system follow:

- Fire support is the product of a system of systems consisting of three parts: fire support command, control, and coordination facilities and personnel; target acquisition and battle-field surveillance; and fire support resources, primarily weapons.
- The fire support system must operate as one force and function with unity of effort and purpose: the effective delivery of fire support.
- The system must be responsive to the needs of the force commander. Individual interests

and concerns of each fire support agency or asset must be subordinated to the overall mission and to the maneuver commander.

- The force field artillery commander is responsible for direction of the fire support system. The force commander charges the force field artillery commander to ensure that all available means of fire support are fully synchronized with the battle plan. As the fire support coordinator (FSCoord), the force field artillery commander speaks for the force commander on all matters pertaining to fire support.

THE FIRE SUPPORT COORDINATOR. The force artillery commander serves as the force commander's FSCoord. Normally, the FSCoord operates through a fire support element (FSE) (Figure 2-2) that is a part of a fire support cell at each Army command echelon. A fire support cell includes liaison elements from the Air Force and Navy, which will be discussed later in this chapter. The commander charges the FSCoord to plan and coordinate engagement of surface targets, target acquisition, radar emplacement,

FIGURE 2-2. Fire Support Coordination Facilities

FORCE ECHELON	FIRE SUPPORT ORGANIZATION	FSCoord	ASSISTED BY
Army Component	None	None	None
Corps	FSE	Corps Artillery Commander	Corps Deputy FSCoord and AFSCoord
Division	FSE	DIVARTY Commander	DIVARTY AFSCoord
Brigade	FSE	FA Battalion Commander	Brigade FSO
Battalion/Squadron	FSE	FSO	Fire Support NCO
Company/Troop	FIST	FSO	Fire Support NCO

counterfire operations, and deception operations by fire support means. He coordinates field artillery target acquisition within the command and with higher echelons from other services. The FSCOORD discharges his responsibilities by ensuring that the system accomplishes its essential tasks. The four basic tasks of fire support are—

- To support the force in contact.
- To support the force commander's battle plan.
- To synchronize fire support.
- To sustain fire support.

They provide a common point of departure for an operationally unified fire support system and a frame of reference for evaluating the system's effectiveness.

AIR DEFENSE

The Army plays a key role in counterair operations. The unity of effort under the AADC's weapons control and air defense procedures and the horizontal and vertical coordination among the air defense elements ensure synchronization between the counterair operations of the Army and the other services. Army air defense requires the integrated application of all combined arms. Active defensive counterair (DCA) operations conducted by Army forces are in response to immediate enemy air threats. The Army's primary active DCA force is air defense artillery (ADA), which provides dedicated low-, medium-, and high-altitude air defense systems. ADA and other combined arms forces integrate their fires to protect the force and selected geopolitical assets and to ensure freedom to maneuver.

Counterair plans support the strategic objectives of the campaign. They support the force commander's intent and concept of the operation, achieving two primary operational objectives: gaining control of the air environment and protecting the force. The AADC executes control of active DCA units primarily through procedural control. The AADC establishes rules of engagement (ROE) and, in conjunction with the airspace control authority, airspace control measures, which facilitate the integration and synchronization of air defense resources. The AADC allocates and tasks apportioned assets through the air tasking order. The counterair plan enables the Army component commander to finalize the air defense portions of the operations plan. The Army component commander also designates Army assets for

offensive counterair (OCA), DCA, TMD attack operations, and joint suppression of enemy air defenses (J-SEAD) tasks.

Army air defense contributions are planned and coordinated through Army, theater army air defense command (TAADCOM), corps, and division command posts (CPs). The AADC, through the supporting air operations center, delegates execution of DCA operations to one or more control and reporting centers (CRC) that direct air defense for an assigned region or sector. The TAADCOM commander performs several functions. He is the echelon-above-corps (EAC) ADA commander and the air defense coordinator to the component commander. Ensuring that the Army is an integral part of joint counterair operations and planning, he is a special staff officer. He participates in the G3 planning cell, assists in developing Army OCA and DCA input to the air operations plan, and includes corps air defense requirements for counterair planning.

The corps ADA brigade commander ensures that corps air defense requirements are integrated into the theater defense counterair plan, coordinating air defense planning with the TAADCOM, adjacent corps, and subordinate divisions. To plan and execute deep, close, and rear air defense operations, the battlefield coordination element's (BCE) air defense officer provides liaison between the Army component commander TAADCOM and the AADC. The result of staff coordination among services and components is a vertical and horizontal integration of staff activity, which serves to unify the effort of the force at all echelons.

COMMAND AND CONTROL

Common to all operations is the necessity for command and control. C² conveys separate actions: commanders command; staffs assist commanders with control; commanders ensure control is balanced. The functions of C² are executed by every Army leader at every echelon using the C² system available to the particular unit. Central to Army doctrine is the preservation of a subordinate commander's freedom of action. By asserting their authority to command, commanders allow subordinates to exercise freedom of action, but are alert and ready to assume control when necessary.

PLANS AND ORDERS. Information, the medium of the C² process, results in two products: decisions and directives, which are relayed to subordinates through plans and orders.

OPERATIONS PLANS/ORDERS (OPLAN/OPORD). Army combat plans and orders are important to the TAGS because they provide the organization, mission, commander's intent, and concept of operation of the Army unit conducting the operation (see format at Figure 2-3).

Organization. How the command is organized to accomplish the mission can be found immediately preceding paragraph 1, *Situation*, or as an annex to an order or plan.

Mission Statement. The mission statement should be clear and concise. The commander's estimate process will yield the specified, essential, and implied tasks to be accomplished, as well as the purpose to be achieved, and answers the who, what, where, when, and why of an operation. The mission statement is paragraph 2 of an order or plan.

Commander's Intent. The intent, which is the commander's stated vision, defines the purpose of an operation; the end state with respect to the relationship among the force, enemy, and terrain; and briefly how the end state will be achieved by the force as a whole without mentioning units of any size. It answers the subordinate commander's question of *why* the operation is being executed. The commander's intent is the most important aspect in considering both combat and combat support operations. It is at paragraph 3, *Execution*, of an order or plan.

The Concept of the Operation. The concept of the operation is the commander's visualization of how the operation is going to be conducted, including the use of direct and indirect fires. The commander's goals, objectives, and priorities for air

support are normally addressed at paragraph 3, *Execution*, of an order or plan. More detailed and specific information on how the Army commander plans to coordinate the use of air power to support the scheme of maneuver can be found in the air support appendix of the fire support annex, normally Annex C.

COMMAND ESTIMATES. Plans and orders are derived using a systematic approach to decision making—an approach called *the estimate process*. The command estimate is a continuous process. Estimates for a current operation can often provide a basis for future missions. Regardless of the echelon of command, all battlefields require commanders to make and execute decisions faster than the enemy. Changed conditions may, at any time, call for a new decision. By analyzing the mission and commander's guidance, the staff develops possible courses of action. The staff wargames and analyzes the courses; the commander selects or modifies one course of action and provides additional guidance.

COMMAND POSTS. To command and control their designated battle space, brigade through corps commanders normally establish three command posts: tactical, main, and rear. The function of each varies; however, generic functions (Figure 2-4) are usually accomplished at each. The CP is the location from which the commander issues directives, allocates resources, monitors the pulse of the battle, and synchronizes operations.

FIGURE 2-3. OPORD Format

STANDARD FORMAT FOR AN OPORD

1. Situation
2. Mission
3. Execution
4. Service Support
5. Command and Signal

FIGURE 2-4. Command Post Functions

TACTICAL	MAIN	REAR
PRIMARY • Conduct the close fight	PRIMARY • Synchronize the battle • Conduct the deep fight • Plan	PRIMARY • Sustain the battle • Conduct rear area operations
SECONDARY • Monitor the deep and rear fights • Plan	SECONDARY • Coordinate combat service support • Monitor the battle	SECONDARY • Serve as the backup to the main • Plan

ARMY AIRSPACE COMMAND AND CONTROL (A²C²). Under the JFC's airspace control authority, A²C² is the Army's principal organization charged with the responsibility for airspace control in the Army's area of operations. Only corps and divisions have dedicated A²C² elements, which are responsible for coordinating and disseminating airspace control information and requirements. The A²C² elements at corps and division are under the staff responsibility of the assistant chief of staff, G3, and are supervised by the G3 Air. Armor and light units of the Army, from corps through battalion, differ in the structure of their A²C² elements. Special operations forces will also work in the air-ground system at the appropriate echelon, which may or may not go through Army channels. Normally, the principal staff sections and liaison elements in an A²C² element consist of representatives from the ADA, Army aviation, air liaison officer (ALO), FSE, air traffic services unit assigned to the corps or division, combat electronic warfare and intelligence unit or G2 section, G4 section (corps and division), and, when required, air and naval gunfire liaison company (ANGLICO). A²C² element tasks include—

- Identifying and forwarding Army airspace needs and requests to the airspace control authority to be included in the airspace control plan and to resolve conflicts.
- Maintaining A²C² overlays and information displays and developing A²C² procedures, plans, standard operating procedures, and annexes to orders/plans.
- Coordinating and integrating airspace user requirements within the area of operations for deconfliction and approval by the airspace control plan and order.
- Coordinating Army airspace use with other components of a joint force and with adjacent units.
- Advising subordinate and higher headquarters of significant activities affecting airspace use.
- Advising subordinate and higher headquarters of the impact of airspace control measures or restrictions on the ground battle.
- Staffing and obtaining approval for special use airspace.

LIAISON AND COORDINATION

At every echelon of the Army—component through company—liaison and coordination elements exist that assist commanders with the planning, synchronization, and deconfliction of air-ground operations.

ARMY COMPONENT LEVEL. The Army component commander plans operations to fulfill JFC-assigned responsibilities. Operations at the component level involve the deployment, maneuver, and fires of land forces over extended terrain and the integration of all Army and other component support into the operation. The details of using maneuver, fires, and allocated support are left to the judgment and decision of subordinate commanders.

The Army component headquarters staff is oriented toward planning and directing combat operations, with emphasis on planning for future operations. The primary TAGS considerations at the Army component level are the allocation of resources and distribution of CAS sorties and the corresponding requirements to provide J-SEAD. At this level, the commander takes an active role in distributing CAS assets to subordinate corps and is active in the targeting process, primarily in target and reconnaissance nomination and prioritization. The Army component staff, with the assistance of the liaison elements, plans targeting objectives and priorities, integrates target lists and fire support coordination measures, coordinates special targets, and tracks target execution by other components and subordinate corps.

The component targeting section works directly with the corps' targeting and fire support staffs in the conduct of "today's" and "tomorrow's" battles. Each subordinate corps will provide its targeting objectives and reconnaissance requirements to the Army component targeting cell. The corps also assists in making recommendations for the Army component's overall targeting objectives for "tomorrow's" battle. The Army component targeting cell and operations cell also monitor "today's" battle and provide feedback to the corps on the execution of the air tasking order (ATO), provide current situation updates to the other components, and identify and prioritize emerging/mobile targets for engagement.

Fire Support Element. The requirement exists at EAC level for an FSE and corresponding air liaison elements. The primary function of these organizations is to advise the respective com-

mander on the apportionment, allocation, distribution, and employment of available fire support assets, including air support, and planning, synchronizing, and executing the use of these assets. At the Army component level, the fire support function is currently performed by the deep operations cell. The primary Army point of contact for the deep operations cell at the AOC is the BCE. The functions of the deep operations cell are—

- To integrate operational fires with the scheme of maneuver.
- To synchronize corps, EAC, and joint deep operations.
- To plan and integrate EAC operations.
- To coordinate and synchronize employment of joint EW assets.
- To plan targeting objectives and priorities and develop a prioritized target list for input to the joint targeting coordination board through the BCE.
- To monitor execution of the deep battle, ATO, land force participation in the J-SEAD operations, SO missions, and unique targets of special interest to the commander.

Airspace/Air Defense Artillery Control Cell. Army aviation and ADA representatives located in the A²C² of the Army component tactical operations center advise the commander on the employment of their respective arms and process airspace control and air defense policy and procedures within the command. The functions of A²C² elements at all levels of command are coordination, identification, integration, and regulation of airspace users.

Battlefield Coordination Element. The Army component commander establishes a BCE to act as the interface between the ARFOR and the JFACC or the Air Force component commander. The BCE is collocated with the JFACC's senior air operations control agency, normally the AOC. It is responsible to the Army component commander and coordinates with and receives objectives, guidance, and priorities from the operations officer (G3). The guidance and priorities should be sufficiently clear that the BCE is able to adjudicate ARFOR needs for air support. The BCE is organized into a headquarters section and six subsections: *plans, intelligence, operations, fusion, air defense artillery and airspace command and control, and airlift.*

- The BCE *plans* section is collocated with the AOC's combat plans division. It—
 - Relays, interprets, and coordinates Army requests for air support (strategic, interdiction, and CAS) and JFACC requests for support by ground units.
 - Provides to the AOC the Army commander's intent, guidance, objectives, priorities for air support, fire support coordination measures, and planned concept of operations.
 - Assists in planning, coordinating, and synchronizing J-SEAD and EW operations.
 - Monitors publication and distribution of the ATO.
- The BCE *intelligence* section is collocated with the plans intelligence section. It—
 - Provides information on enemy ground order of battle, assists in interpreting this information and in target development, and validates Army-nominated targets.
 - Processes, justifies, and coordinates Army requests for tactical reconnaissance and EW support.
 - Obtains Army intelligence reports and facilitates the exchange of intelligence data. Coordinates intelligence data for unique targeting requirements.
- The BCE *operations* section is collocated with the AOC's combat operations division. It—
 - Monitors execution of the current ATO as it pertains to missions planned against Army component-nominated targets.
 - Coordinates all changes that affect the current ATO, including diverts, rerolls, mission cancellations, and changes in the land forces' current operations, objectives, priorities, nominated targets, and fire support coordination measures.
 - Keeps abreast of current theater policy regarding the integration effort of both ground and air forces and coordinates surface-to-surface missile strikes beyond the fire support coordination line.
- The BCE *fusion* section is collocated with the AOC's enemy situation and correlation division. It—

- Validates land force-nominated targets prior to attack.
- Ensures timely processing of CA to the land force headquarters and identifies new targets for attack.
- Processes land force requests for immediate air reconnaissance and EW support.
- Provides the current land force intelligence picture to the AOC operations division.
- *The air defense artillery and airspace command and control section* works with both the operations and plans divisions of the AOC. It—
 - Represents the Army component in the development of the airspace control order, the air defense plan, and ROE.
 - Coordinates air defense, theater missile defense, and airspace requirements with the AOC, Army liaison at CRCs, and the land force air defense headquarters. Coordinates special electronics mission aircraft and attempts deconfliction of airspace when firing the Army Tactical Missile System (ATACMS).
 - Informs and advises the land force airspace control element of the impact of any additions or conflicts on airspace activities and control measures.
 - Coordinates with the AOC, Army component headquarters, and Army air defense headquarters on changes in ROE, identification procedures, air defense warning, ADA employment and deployment, and reporting requirements.
 - Schedules preplanned Army fixed-wing aircraft into the ATO and coordinates special electronic mission aircraft and the Army tactical missile system firings.
- *The BCE airlift section* is collocated with the Air Force component air mobility element (AME). It—
 - Coordinates and monitors airlift missions in support of Army component operations.
 - Advises the commander, airlift forces, and staff on all matters pertaining to land force operations and intelligence.
 - Monitors publication, distribution, and execution of the theater airlift portion of the ATO.

MULTICORPS OPERATIONS. When engaged in multicorps operations, each corps provides LNOs to the BCE to represent the corps' interests at the AOC and to rapidly expedite the coordination of air-ground missions and transfer of operational and intelligence data.

Ground Liaison Officer. The Army provides ground liaison officers (GLOs) at each air wing operations center (WOC) supporting ground operations. GLOs provide Army expertise, brief pilots on the ground situation, and debrief pilots upon return from missions. GLOs receive and report operational and intelligence data to the BCE.

Air Defense Liaison Officer. The Army provides air defense LNOs to the CRC to assist in the rapid engagement of airborne targets. Air defense LNOs may also be provided to the airborne warning and control system to further assist in the ground-to-air battle.

CORPS AND DIVISION LEVEL. The FSE, A²C² section, aviation LNO and the tactical air control party (TACP) synchronize the TAGS at corps and division. The close integration of the commander with the FSCoord, G3 Air, and ALO is critical to success. The FSEs and TACPs at corps and division are essentially similar in structure. Both have FSEs located in the main and tactical CPs under the FSCoord's supervision. The FSCoord and staff are the nucleus of the fire support cell, which includes the fire support resources and agencies discussed in the following paragraphs.

Fire Support Element. The FSE is the central clearinghouse for planning, coordinating, and synchronizing all categories of fire support on surface targets. The exact organization varies among units and depends on the mission, availability of fire support assets, and command preferences. Generally, it will include planning, targeting, and current operations elements. Field artillery has the dual mission of integrating all available fire support and providing field artillery fires. In this regard, the respective FSEs forward preplanned requests for air support, including CAS, through Army command channels to the BCE/AOC.

Tactical Air Control Party. TACPs are provided to corps down to battalion level. The ALO supervises the TACP, who—

- Serves as the Air Force commander's representative, providing advice to the Army com-

mander and staff on the capabilities, limitations, and employment of air support, airlift, and air reconnaissance.

- Provides a coordination interface with the respective FSE and A²C² cell; assists in the synchronization of air and surface fires and preparation of the air support plan; and provides direct liaison for local air defense and airspace management activities.
- Integrates into the staff for air support planning for future operations and advises on the development and evaluation of CAS, interdiction, reconnaissance, and J-SEAD programs.
- Provides appropriate final attack control for CAS and operates the Air Force air request net.

Air Support Operations Center (ASOC). The focal point for coordinating CAS at corps is the ASOC—an operational component of the TACS subordinate to the AOC. The ASOC is normally collocated with a corps main CP. ASOC personnel plan, coordinate, and direct CAS and air reconnaissance assets, for which the AOC has given the ASOC TACON or OPCON (normally on-call CAS and reconnaissance sorties distributed to that particular corps by the senior Army commander). They provide fast response to the corps and subordinate units' immediate requests for CAS and air reconnaissance, keep the AOC advised of the current tactical situation, and keep TACPs informed of current and forecasted operations. At corps level and when divisions operate separately, the ALO commands the ASOC.

G3 Air and A²C² Section. The G3 Air performs a pivotal role in the implementation of the air-ground system at corps level. The G3 Air is not only the supervisor of the A²C² element, but also receives, coordinates, plans, prioritizes, and synchronizes preplanned requests for CAS. The G3 Air also coordinates redistribution of CAS resources, has responsibility for the coordination and approval of requests for immediate CAS, and initiates ASOC execution.

Army Aviation. When Army aviation is employed as a maneuver element, the aviation brigade commander has the responsibility to coordinate air ground synchronization with the G3 Air and the FSE.

Electronic Warfare Section. The G3 controls the use of EW; however, the EW section usually collocates with the FSE to facilitate target acquisition and fire support planning and execution.

Air/Naval Gunfire Liaison Company. When deployed as part of a Marine air-ground task force or as a landing force, Army divisions and brigades coordinate Navy and Marine Corps support through an attached ANGLICO. This US Marine Corps unit collocates with the division A²C² element and the FSE.

G2 Collection Management and Dissemination. This G2 agency coordinates the airspace requirements for special electronic mission aircraft (SEMA) and unmanned aerial vehicles (UAV) and provides liaison to support the A²C² effort.

BRIGADE AND BATTALION LEVEL. The direct support battalion commander is the FSCoord for the supported maneuver brigade: The field artillery battalion commander, in his capacity as the brigade FSCoord, organizes fire support elements in each maneuver battalion and company. When Army Aviation supports another maneuver brigade, the aviation unit commander or his LNO provides direct coordination with the supported unit. Air Force air support is coordinated through the brigade and battalion ALO and the TACP in conjunction with the S3 Air. If Navy or Marine Corps air support is available, a brigade air/naval gunfire platoon from the ANGLICO will be deployed at brigade level. The ANGLICO provides the battalion FSE with a battalion supporting arms liaison team (SALT).

COMPANY LEVEL. The fire support team (FIST) and the forward air controller (FAC)/enlisted terminal attack controller (ETAC) synchronize fire support at the maneuver company level. The company fire support officer (FSO), who supervises the FIST, usually coordinates CAS through the Air Force forward air controller/enlisted terminal air controller. The company FSO coordinates the employment of Navy and Marine Corps air resources through the firepower control team, which is provided by the SALT at battalion. In some situations, specifically OOTW, the aviation attack company commander may talk directly to a ground maneuver company commander in coordinating areas of engagement, responsibility, threat location, and other force synchronization requirements.

The TAGS can function across the range of military operations. By providing the ground commander an integrated system to tie together different services' air-ground systems in theater operations, TAGS is critical in supporting Army operations. Support derived from the TAGS provides the ground commander additional capability to fight the close battle and influence future operations by shaping the battlefield. An Army commander at any level expects the TAGS to provide him stability and feedback to allow him to synchronize his ground effort with the supporting air operation to ensure success. The key to making the TAGS work for the ground commander in war is the close relationship between the commander, his FSCoord, LNO, ALO, and G3 Air. The ability of these four to work closely together in all aspects of planning, synchronizing, and executing the battle will have a decisive impact on the ground battle. The tactics, techniques, and procedures discussed in this manual can be modified to meet the needs of the JFC. Army doctrine is not dogma; it is authoritative, not directive. This chapter is designed for sailors, airmen, and marines who work in joint, combined, and interagency operations with the Army. Army doctrine is not designed to show leaders what to think, but how to think about fighting.

CHAPTER 3

AIR FORCE COMPONENT

This chapter provides a basic understanding of how the Air Force views the employment of air power and the Air Force contribution to the TAGS. It discusses TAGS-related missions and responsibilities in a joint force operation, operational factors that influence the way the missions are accomplished, and the Air Force component C² system.

MISSIONS

The AFFOR is assigned many missions and tasks to support the JFC's campaign plan. Missions are normally assigned through mission-type orders to accomplish objectives such as "conduct operations to gain and maintain air supremacy over . . ."; "plan and conduct operations to disrupt . . ."; or "provide support to the Army and Navy component commanders to. . ." The organization of the joint force and delegation of command authority impact the organization and C² of theater air assets.

As described in Chapter 1, an AFFOR may be, or may operate in support of, a JFACC. This will affect the amount and type of assets available for tasking and the composition of the planning and execution staff. The methods of operation will be unchanged.

The AFFOR conducts many types of missions to support the TAGS. The Air Force defines typical missions in terms of four basic roles of aerospace power: *aerospace control*, *force application*, *force enhancement*, and *force support*.

- *Aerospace control*, that is, counterair for TAGS purposes, is conducted to gain control of air in the JFC's area of operations. Counterair must be successfully accomplished to allow ground units to accomplish their objectives without being hindered by enemy aircraft or missile attack.
- *Force application* missions include strategic attack and those most directly contributing to ground operations: interdiction and close air support. These missions, which generally must be synchronized to provide the synergism of joint employment, are the focus of this manual.
- *Force enhancement* missions include surveillance and reconnaissance, electronic combat, air refueling, airlift, and others as required.
- *Force support* missions sustain forces.

AIR INTERDICTION

Air interdiction destroys, neutralizes, or delays the enemy's military potential before it can be brought to bear effectively against friendly forces and from such distance that detailed integration of each air mission with friendly fire and movement is not required. Its ability to delay and disrupt may have a devastating impact on the enemy's plans and ability to respond to the actions of friendly forces. Disruption or destruction of resupply and reinforcing units will reduce the pressure on friendly land forces.

Air interdiction and ground operations should be planned and executed to complement and reinforce each other. Complementary employment of air interdiction and ground maneuver should be designed to present the enemy with a dilemma. If attempts are made to counter ground maneuver, enemy forces may be exposed to unacceptable losses from air interdiction; if air interdiction is countered, the enemy force may be outmaneuvered by friendly ground forces.

Coordination among the AFFOR's AOC, the BCE, the NALE, and the MARLO contributes to the targeting process. The depth at which air interdiction is performed generally determines the freedom of action available to the attacking force. Increasing the depth of operations reduces the danger of fratricide and the coordination required between components and the individual aircrew and controlling agencies. From an effectiveness standpoint, planning for air interdiction, and not CAS, may be the best use of air assets during fast-moving offensive operations.

CLOSE AIR SUPPORT

CAS is the application of air power in support of the ground commander's forces against hostile targets that are in close proximity to friendly forces. It produces the most focused effect of any

Air Force attack mission. Each air mission requires detailed integration with the fire and movement of friendly forces. The ground commander should plan CAS with the advice and assistance of the Air Force component's liaison elements, TACPs, and ASOCs. Airmen understand the difficulties and intricacies of conducting and controlling CAS missions and the actions required to reduce the possibility of fratricide, including target identification, munitions effects and results of possible malfunctions, best run-in headings, risks to friendly forces, coordination requirements due to other ongoing friendly activities, and other restrictions required by the land force commander. The AFFOR must ensure that operational limita-

tions are appreciated so that CAS will be performed in a way that best supports the land force.

Although CAS is often viewed by the Air Force as the least efficient application of air power, at times it may be the most critical, ensuring the success or survival of ground forces. For best results, CAS should be massed to apply concentrated combat power in accordance with the land commander's priorities. It should not, as a practice, be distributed equally among subordinate units. When massed, CAS should prepare conditions that may be exploited by the ground force. CAS can help create breakthroughs, cover retrograde operations, and guard maneuver unit flanks.

COMPONENT OPERATIONS

Component commanders plan long-range operations to accomplish their missions. The ARFOR commander may envision operations conducted in deep, close, and rear areas and in terms of maneuver and fires. The AFFOR commander envisions missions assigned in terms of those that are apportioned—strategic attack, air interdiction, counterair, CAS, and so forth—and plans operations to achieve the JFC's desired results. The term "mission" has another meaning to airmen. A mission commonly means the dispatch of one or more aircraft to accomplish some specific task. The apportionment decision and daily ATOs use this definition. The AFFOR develops operations plans to accomplish the JFC-assigned missions by conducting planned, and often phased operations, which continue until the JFC's desired campaign end state is achieved. The AFFOR orchestrates assigned missions into an effective operation in the face of peculiar and often rapidly changing situations.

OPERATIONAL PLANNING

The AFFOR's operational planning involves four tasks:

- Envisioning the theater and determining when and where to apply what force in concert with the JFC's campaign.
- Creating conditions that give other components the best chance of success.
- Directing adjustments to operations in accordance with mission results and the JFC's revised intent.

- Exploiting the often fleeting opportunities that result from combat.

In each task, the key to success lies in the AFFOR's ability to achieve objectives by orchestrating missions so they produce a mutually reinforcing effect. The AFFOR executes operational plans through a continuing series of ATOs and aircraft missions to achieve the JFC-assigned mission objectives. The formula for the proper employment of air power in a JFC's campaign is situation-dependent. Optimum use of air power depends upon a host of dynamic circumstances peculiar to the conflict. One of the most important of these circumstances is the nature of the enemy—a primary consideration in AFFOR operational decisions. The nature of the enemy defines the enemy's centers of gravity, methods of fighting, and the threat posed to the achievement of friendly objectives. These factors affect the focus of a campaign and determine operation plan priorities. Range to the operational areas, theater infrastructure, and regional geography affect the role of air power, specifically mission requirements, priorities, and operational tempo.

OPERATIONAL TENETS

The AFFOR's operational plans are based on the principles of war and Air Force tenets for employment of air power. The primary tenets are centralized control and decentralized execution, flexibility and versatility, priority, synergy, concentration, and persistence. These tenets form the backbone for every mission the Air Force component will perform. They are not just platitudes. An un-

derstanding of the tenets is required to understand the way the Air Force plans and conducts all operations, which in turn support air-ground operations.

CENTRALIZED CONTROL AND DECENTRALIZED EXECUTION. The AFFOR uses centralized planning and control to establish effective priorities, ensure unity of purpose, and minimize the potential for conflicting objectives. The AFFOR's TACS, which is discussed later in this chapter, is designed for this purpose. The AFFOR's flying units are normally spread throughout the JFC's theater at many air bases. Centralized planning and control allow the selection and coordination of the unit or units that are best prepared to provide that capability in the required amount at the required time. Air Force aircraft and avionics systems are very complicated, and maintenance and flying personnel require extensive training to enable proper combat employment. As a result, Air Force units flying the same basic aircraft may not have the same capabilities. For example, some F-16 units are equipped with the low-altitude navigation and targeting infrared for night attack system, which provides all-weather and night capabilities; some are not. F-15C/D units perform air-to-air type missions. F-15E units perform air-to-ground and air-to-air missions. Only certain B-52 units are capable of Harpoon missile delivery in support of the Navy component. Air Force units train extensively for primary and secondary missions for combat tasking according to the equipment they possess. For example, although the F-16 aircraft has an air-to-air combat capability, the primary mission of most F-16 units is air-to-ground, not air-to-air. The operations of numerous units must be coordinated to provide the proper mission flow and support, that is, tankers, defense suppression, electronic warfare, and so forth, required to achieve the desired results. The AFFOR mission planners, however, require numerous inputs from the flying units to allow centralized planning and control. Only the flying units are aware of what their probable status will be one or two days in the future and what their actual maintenance, munitions, and aircrew availability is for the tasked day. Decentralized execution is required for the opposite reason that centralized planning and control are required. The ASOC and CRC execution of on-call assets illustrates this point. On-call CAS managed by ASOCs and on-call DCA managed by the CRC are launched to meet the changing tactical situation, reduce response time, and satisfy unforeseen requirements.

FLEXIBILITY AND VERSATILITY. One of the AFFOR's many contributions to the TAGS is the ability to concentrate force anywhere and attack any facet of the enemy's power. Centralized planning and control, as well as speed, range, and flexibility, give the AFFOR this capability. The ATO planning and execution process supports these tenets. The ATO, which is used to plan and schedule missions, including required supporting assets, establishes a flow of aircraft tasked to support air-ground and other AFFOR missions. The ATO fills a fire hose by directing and sequencing air activity over the JFC's area of responsibility. The AFFOR's AOC controls the execution of the ATO and directs or readjusts the fire hose as required. The ATO provides the JFC flexibility. The AOC can and will redirect aircraft from one mission to another if a higher priority requirement is established. The AOC or ASOC has the ability to divert CAS aircraft planned to support one unit to another if the supported component commander determines a requirement for previously unplanned support. The AFFOR will strive to fully use the flexibility and versatility of the ATO and ensure it is not compromised.

PRIORITY. The JFC establishes the AFFOR's priorities, which come in many forms, during the initial assignment of missions and tasks. The JFC will approve the resulting AFFOR operation plans for the various missions assigned, that is, TAGS missions, counterair, strategic attack, and so forth, which will contain long-range priorities. Near-term priorities are established through the JFC's apportionment decision and broad targeting guidance. CAS priorities are determined by the apportionment decision for the percentage of the overall effort and by the Army or supported commander for the distribution of sorties to the subordinate units.

SYNERGY. Flying sorties, when applied in comprehensive and mutually supportive air operations, produce effects well beyond the proportion of each sortie's individual contribution to the operation. Counterair missions and the achievement of air superiority allow air interdiction missions to operate more freely. Counterair also facilitates maneuver by land forces and frees them from the effects of the enemy's air-ground effort. Air-ground operations applied in coordinated joint operations add significant flexible, responsive, and concentrated firepower to land force organic sources. J-SEAD and JAAT operations enhance Air Force missions.

CONCENTRATION AND PERSISTENCE. Air power is most effective when it is focused. Centralized planning and control through the use of one planning tool, the ATO, allow focused TAGS operations. Changes of the ATO at the AFFOR's AOC allows focused operations to be directed to a TAGS target set or individual target until the desired results are achieved. Effects of air strikes may be permanent but, for enemy-order-of-battle targets, may be fleeting. Persistence is required. The AFFOR will

plan for reattacks or redirect the ATO fire hose, as required, to achieve the required results.

EMPLOYMENT OF FORCES

Airmen are responsible to the AFFOR for the effective employment of air power. Specialized competence in the exploitation of air power is the basis for their responsibility, which begins with the advice they provide on what forces are needed and how they can contribute to the JFC's campaign.

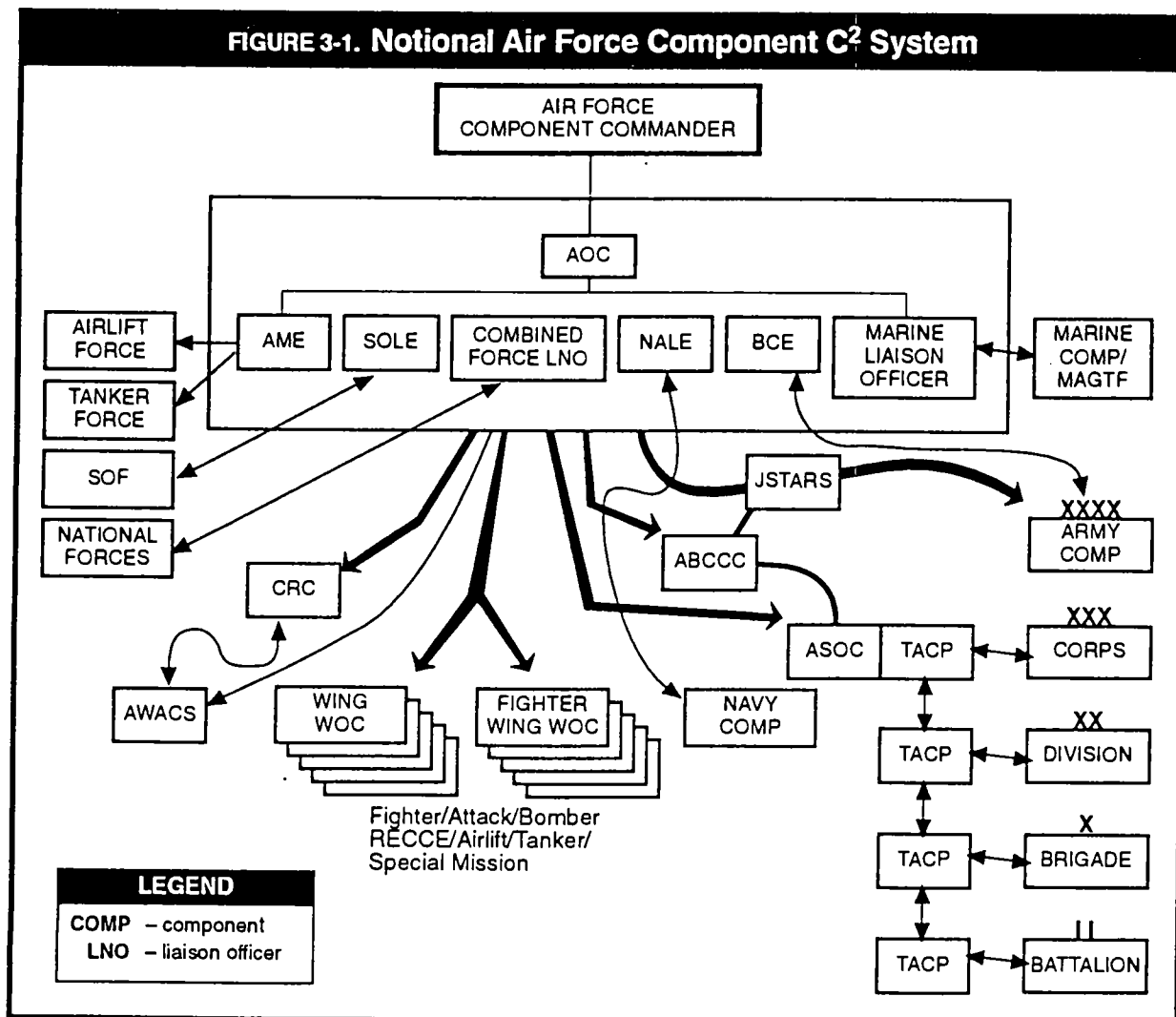
COMMAND AND CONTROL

A notional Air Force component C² system is depicted in Figure 3-1.

COMMAND AND CONTROL PROCESS

The AFFOR will exercise command authority as directed by the JFC. The AFFOR may be as-

signed responsibilities as a JFACC, ACA, and/or AADC, which are discussed in Chapter 7. The AFFOR will plan, coordinate, and execute AFFOR air operations and other assigned responsibilities through the component TACS, which allows the required centralized planning and control and



decentralized execution previously discussed. The JFACC's joint staff (if JFACC is AFFOR) or AFFOR staff will function within the Air Force component TACS. If another component has JFACC responsibility, the AFFOR would retain service component responsibilities, which would also be accomplished through the TACS.

THEATER AIR CONTROL SYSTEM

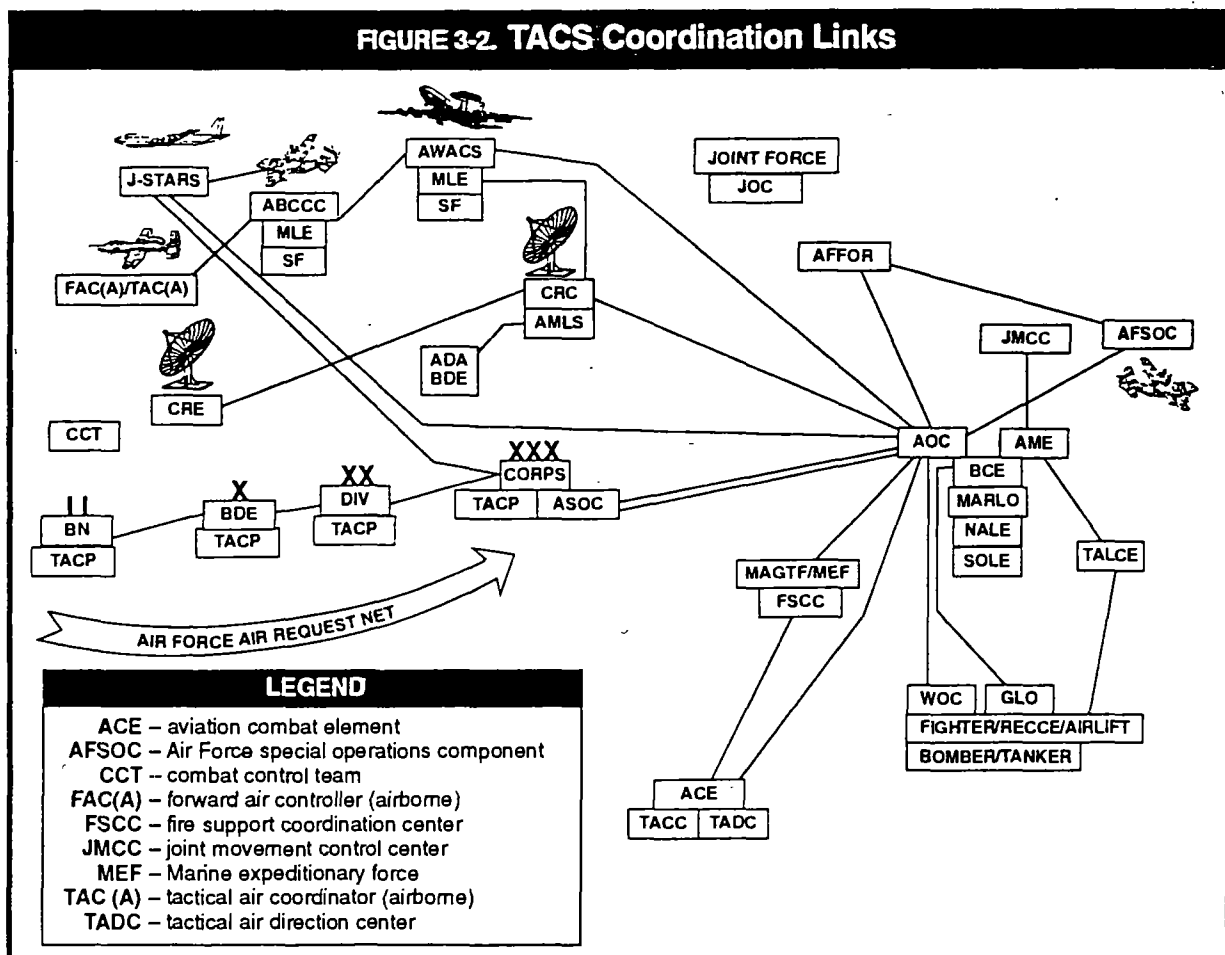
The TACS (Figure 3-2) is the backbone of the AFFOR contribution to the TAGS. It consists of the AOC—its focal point, control and warning agencies, coordination/liaison organizations, and Air Force WOCs. The TACS is designed specifically to perform centralized planning and control and to facilitate decentralized execution. Subordinate TACS agencies perform the tasks of liaison, planning, coordination, monitoring, surveillance, control reporting, and execution of air op-

erations. Agencies participating in airspace control and air defense operations are the Airborne Warning and Control System (AWACS), CRCs, and subordinate radar facilities. The AOC, AME, airborne battlefield command and control center (ABCCC), ASOCs, TACPs, WOCs, and JSTARS are those elements of the TACS most directly involved in the execution of missions in support of land forces.

AIRBORNE WARNING AND CONTROL SYSTEM. The AWACS, which provides radar control and surveillance coverage, can function as an alternate CRC or limited AOC.

CONTROL AND REPORTING CENTER. The CRC is the senior radar element of the Air Force's Tactical Air Control System. It directs air defense activities, provides airspace control, and manages the Air Force's subordinate radar elements: the

FIGURE 3-2. TACS Coordination Links



control and reporting post (CRP) and the control and reporting element (CRE). The CRP extends radar control and coverage and can function as an alternate CRC. The CRE deploys forward to extend radar coverage and provide early warning surveillance. It is subordinate to the CRC and CRP.

AIR OPERATIONS CENTER. The AOC is staffed and equipped to support the AFFOR and other component commanders by planning, coordinating, executing, controlling, monitoring, assessing, and reporting air operations. If another component commander is designated as JFACC, the AOC remains the AFFOR's command, control, communications, and computers (C⁴) center and interfaces with the JFACC's C⁴ center. The AOC will be task-organized as directed by the commander to fulfill requirements driven by the nature of the JFC's campaign, to exercise OPCON of organic forces and appropriate authority over other available military capability, and to plan and execute JFC-assigned missions and functions. The AOC will generally be organized with a combat plans division, combat operations division, and combat intelligence division, along with a logistics readiness and combat service center. Generally, the AOC works on three separate ATOs at any one time: executing the current day's plan, coordinating and publishing the plan for the next day's operations, and planning and conducting initial coordination for the following day. The AOC combat operations and intelligence divisions monitor and facilitate the decentralized execution of the ATO by the organic forces and tasked organizations of all the components when designated as the JFACC's AOC. This tasking and execution process is discussed in greater detail in Chapter 7. The AOC must have survivable and secure communications with operations, logistics, and intelligence centers, as well as appropriate elements of higher and lateral headquarters, subordinate units, and subordinate TACS elements. AOC personnel conduct certain activities for the AFFOR. Specifically, they—

- Develop operational plans to support the JFC's campaign to meet future requirements.
- Develop specific targets and weaponizing for AFFOR-assigned mission responsibilities.
- Prepare apportionment recommendations.
- Allocate Air Force air sorties upon receipt of the JFC's apportionment decision(s) and coordinate with the parent component's employment of other military capability made available by the JFC.
- Formulate and transmit specific day-to-day plans for the employment of Air Force air sorties, that is, the ATO.
- Conduct intelligence operations, which include processing, analyzing, and applying all-source intelligence to support ATO planning and execution. Included is providing target materials, aim-point data, and threat analysis to operational units for mission planning.
- Direct and control ATO execution to achieve AFFOR guidance. This provides rapid reaction for response to immediate support requests, positive control, and coordinated weapons employment to fully integrate joint air operations.
- Evaluate mission success, using mission reports and intelligence data, to determine combat assessment and reattack requirements.
- Conduct liaison with other components of the joint force through liaison elements.
- Provide C⁴ facility support for liaison from other components. A BCE represents the Army component commander, a NALE may represent the joint force naval component commanders, a MARLO the Marine Corps component, and the SOLE represents special operations forces. In addition to the BCE, NALE, MARLO, and SOLE, allied forces' liaison elements, as well as other international aviation controlling agencies, may be located in the AOC. When the AFFOR is not the JFACC, other components will be represented at the Air Force component as outlined above or as directed by the JFC.
- Promulgate airspace control procedures and coordinate airspace control activities, if directed by the ACA.
- Provide overall direction for the air defense effort as directed by the AADC, including early warning and operations directed against cruise and tactical ballistic missiles.
- Provide overall direction for Air Force combat rescue and recovery efforts, including coordination with other components' rescue centers and the joint rescue center.

AIR MOBILITY ELEMENT. The AME is the functionally specialized center that controls intratheater airlift, tanker support, and monitoring and coordinating intertheater airlift for the AFFOR. The director, mobility forces (DIRMOBFOR), through the AME, monitors and manages these missions. The AME must coordinate closely with the AOC, which retains principal responsibility for directing the air operations, coordinating airspace, and publishing the ATO/airspace control order. The DIRMOBFOR normally provides airlift and tanker duty officers to augment the AOC in order to coordinate and integrate these forces into the overall joint air operation. Liaison officers from supported components coordinate with the AME to fulfill airlift requirements.

AIRBORNE BATTLEFIELD COMMAND AND CONTROL CENTER. An ABCCC is a specialized center with a limited capability to manage tactical air-ground operations. Mobility and tactical communications capabilities permit an ABCCC to operate in concert with ground TACS elements to extend their normal span of control. An ABCCC provides a capability to operate early on during contingencies or in situations that prohibit deployment of a ground TACS. As an on-scene extension of an AOC and AFFOR, an ABCCC may be delegated the authority to divert aircraft to fleeting targets, to serve as an on-scene coordinator, or to execute special missions. An ABCCC can serve as

an interim airborne ASOC or as a substitute ASOC for ground units.

WING OPERATIONS CENTER. The WOC is the operations center for each Air Force wing headquarters. The wing commander and staff receive orders, directives, and guidance from superior commanders and control centers. They manage resources and direct operations at the WOC. It is the focal point where ATOs are translated into specific tasks and mission requirements. A WOC communicates with assigned and attached units and maintains the capability to communicate with airborne aircraft within line-of-sight range.

JOINT SURVEILLANCE AND TARGET ATTACK RADAR SYSTEM. The JSTARS provides air-to-ground surveillance. This capability can be used for situational awareness and real-time targeting support. The system consists of an E-8 airborne platform with a multimode radar system and mobile ground station modules (GSMs). Information is transmitted in real time by secure data links from the E-8 to the ground commanders' GSMs and to air command elements.

OTHER AIR FORCE TACS ELEMENTS. The TACS contains other airborne and ground-based control and warning elements, which will be available to the AFFOR for airspace control and area air defense operations.

LIAISON

The AFFOR normally provides ALOs to Army maneuver units from corps to battalion. Air Force liaison may also be assigned to the Army or land component commander's headquarters. The corps ALO is the AFFOR's direct representative to the corps commander. The ALO assigned to the corps becomes the ASOC director when the ASOC is deployed with a supported maneuver unit. An ALO, who is the senior Air Force officer of each TACP, is responsible for subordinate echelon TACPs.

AIR SUPPORT OPERATIONS CENTER

An ASOC is a TACS element responsible for directing and controlling the on-call CAS and air reconnaissance assets in support of the Army's ground forces. It is an Air Force operations center located at an Army corps which functions under OPCON of the AFFOR through the AOC. The ASOC coordinates and directs CAS sorties allo-

cated in the ATO, distributed by the Army component commander to the corps commander, and redistributed by the corps to subordinate echelons. An ASOC's primary mission is to provide fast reaction to immediate requests from Army forces for air support. An ASOC keeps the AOC advised of the air effort needed to satisfy Army tactical air support requirements. It will request additional air resources when requirements exceed the sortie allocation or distribution. Reconnaissance support sorties are usually not allocated or distributed to ASOCs but are coordinated and controlled by the AOC. The ASOC is normally located in proximity to the corps main command post.

TACTICAL AIR CONTROL PARTY

The Air Force normally provides TACPs to Army maneuver unit headquarters from corps through battalion. TACPs provide direct interaction with supported land maneuver units and should be

highly visible to the Army commanders and readily available to assist in the integration and synchronization of air power and land force fire and maneuver. The supported unit's ALO is the commander of the TACP. TACPs at corps through brigade function primarily in an advisory role. These sections provide Air Force operational expertise for support of conventional Army planning and operations. They are also a point of contact to coordinate local air defense and airspace management activities. Their function is specifically to assist Army planners in the preparation and syn-

chronization of air support with surface fires and preparation of the Army's air support plan. They coordinate preplanned and immediate air requests and assist in coordinating air support missions with the appropriate Army airspace command and control element. Battalion TACPs have assigned ALOs and enlisted terminal attack controllers or, when required, are supported from brigade level. These TACPs have the added responsibility of terminal attack control. TACPs and the ASOC coordinate activities through an Air Force air request net and the advanced airlift notification net.

Air Force contributions to the TAGS are threefold. First, gaining control of the aerospace combat environment and the conduct of other missions and support activities throughout the theater support the other components in conducting their operations. Second is the planning, coordination, and control of the air interdiction and CAS missions that directly support the land forces and the joint force as a whole. Third is the primary TAGS C⁴ System, which facilitates tasking assets. The AFFOR exchanges liaison elements with other components. Liaison personnel must be well trained to accomplish their duties. Liaison is the key to the effective planning and coordination of TAGS activities.

CHAPTER 4

NAVY COMPONENT

The concepts of close and deep battle apply to maritime forces, and the application of sea- and land-based air power enhances the conduct of warfare from the sea. In many cases, air power can be the decisive factor. Thus, the aircraft carrier can generate air power to support component commanders in accomplishing their missions. This chapter provides a general understanding of the roles that naval forces can accomplish in the JFC's campaign, the doctrinal tools currently in use, and the C² systems used to apply naval air power to the JFC's mission. All TAGS practitioners must understand the operational capabilities of naval forces and the contributions that they can make.

MISSIONS

The basic roles of naval forces are to promote and defend our national interests by maintaining maritime superiority, contributing to regional stability, conducting operations on and from the sea, seizing or defending advanced naval bases, and

conducting such land operations as may be essential to the prosecution of naval campaigns. Naval forces accomplish these missions by conducting deterrence operations, maintaining a forward deployed presence, and exercising a robust sealift capability.

COMPONENT OPERATIONS

Navy and Marine Corps operations encompass air, surface, subsurface, land, space, and time.

BATTLE SPACE DOMINANCE

Modern battle space is multidimensional. Dominance of these dimensions continues to be an important factor in the survival and combat effectiveness of our force. Battle space dominance consists of zones of superiority surrounding one or more units or even the entire force. The zones are regions in which we maintain superiority by detecting, identifying, targeting, and neutralizing anything hostile that enters or passes through. Zones of superiority are our base of operations that we position over any area of concern and from which we can project power. We can establish multiple zones of superiority as specific task forces are separated from the main force. These zones also are regions into which we receive information and support from outside sources and from which we project power. Theater commanders may direct naval forces to conduct a mission independently if the size of the battle space they can dominate adequately covers the region of concern. By combining complementary capabilities from units working together, including the US Army and Air Force, allied, or coalition capabilities in joint or multinational operations, we effectively extend the range and geographic influence of our battle space. What distinguishes naval forces among armed

forces is the combination of operational readiness and agility that creates these zones of superiority. Based on the capabilities of our sensor and weapon systems, these zones can reach out for hundreds of nautical miles. We maintain our protective zones of superiority around us, establishing them not just upon arrival but all along the way. The battle space moves with the force. By extending zones of superiority over entities such as convoys, amphibious groups, and land masses, naval commanders protect landing forces moving ashore while those forces are accomplishing their missions and establishing their own defensive zones. This concept applies in both war and operations other than war.

POWER PROJECTION

Our ability to project power is the cornerstone of effective crisis response. In peacetime, we can think of power projection as introducing our national influence to deter aggression, promote regional stability, and provide collective security. In war, power projection is the use of supporting arms to apply high-intensity, concentrated offensive power at the time and location of the nation's choosing. Supporting arms include, but are not limited to, varieties of firepower; the synergy of sea, ground, and air operations; electronic warfare operations; deception and ruses; psychological operations; and special warfare operations. Taking the fight to the enemy has always been one of our nation's primary objectives in

war. Power projection takes the battle to the enemy. This is best done before the enemy's influence can become established, developed, or expanded. Even if no offensive action is planned, naval forces can be used as a credible show of force. This can influence a potential adversary's actions by providing unequivocal evidence that a fully combat-ready force stands poised to inflict unacceptable losses upon him. Naval expeditionary forces provide the NCA with the operational depth of naval power projection, independently or as part of a joint or multinational operation, by carrier-based strike aircraft, Marine air-ground task forces, long-range sea-launched cruise missiles, special warfare forces, naval surface fire support, command and control warfare, and maritime pre-positioning.

FORCE SUSTAINMENT

Successful global response to contingencies depends upon our ability to project and sustain US

forces in a theater of operations. Integrated support resources in the form of fleet-based sustainment and strategic assets provide naval expeditionary forces and joint and multinational forces the ability to operate in peacetime and in war wherever and whenever our national interests demand. The same sustainment system that makes it possible for us to conduct operations in war also allows our nation to project power in the form of credible US presence in operations other than war. Naval forces are able to readily provide critically needed support personnel and relief supplies in the earliest stages of need. Logistic support provides assured delivery of the materiel required for US forces to remain on station, combat-ready, for as long as necessary. These forces are served by a support organization that begins at the loading dock of the manufacturer in the United States and ends when the needed materiel is put in the hands of the user.

PLANNING

For a forward deployed naval force simultaneously to be involved in a US presence mission, support a multinational humanitarian operation, and conduct a naval exercise is not unusual. The substantial investment of the US in naval forces provides a flexible diplomatic and military capability.

NAVAL EXPEDITIONARY FORCES

Modern naval forces make available to unified commanders an expeditionary force package from among the following: aircraft carriers and their associated air wings, submarines, amphibious ships with embarked Marines, maritime patrol aircraft, surface combatants, mine warfare forces, and Navy special warfare forces. They play a central role in maintaining a strong peacetime forward presence capable of projecting sustainable power from the sea. These forces are cohesive, self-sustaining, tactically and strategically mobile, task-organized, forward-deployed teams that can execute a broad range of options initiated from the sea. Naval expeditionary forces possess a full range of naval combat capabilities and are tailored by operational need to become one of the basic building blocks for maritime joint and multinational options ordered by the NCA. Such options range from what has become our day-to-day peacetime employment—forward presence, humanitarian, and peacekeeping operations—to fighting in regional conflicts. Naval expeditionary forces pro-

vide the joint force commander command, control, and communications; battle space dominance; power projection; and self-sustainability.

OPERATIONAL ENVIRONMENT

The maritime environment confers disadvantages and advantages. The corrosion control, preservation, and maintenance requirements are stringent; however, the equipment is rugged. Realistic training and operational experience are difficult to achieve except at sea but, when at sea, a naval force is fully operationally capable. Logistics are complex; however, underway replenishment, vertical replenishment (helicopters), and carrier onboard delivery capabilities provide the required degree of operational freedom.

"COME AS YOU ARE"

The forward presence transit times between home ports and operating areas and the long lead times to acquire or replace Navy combat units lead to a "come-as-you-are" mentality in regard to operations. This also requires naval forces to "train as they will fight."

NAVY SUPPORT TO THE TAGS

As a provider of resources to the TAGS, Navy air forces provide strike aircraft to attack targets as directed by the JFC. Carrier- and land-based aircraft are equipped and trained to perform all types of air-

to-ground missions, including CAS and air interdiction. Naval forces can also fire cruise missiles from surface and subsurface platforms in support of the JFC's mission objectives and other component commanders.

COMPONENT ASSISTANCE

The forces of other components can assist naval forces in accomplishing their missions by pro-

viding strike aircraft or long-range missile fires to provide naval strike, interdiction of naval support facilities, and suppression of enemy air defense systems. Ground-based support can also provide terminal control of munitions and direct action missions against targets of interest to the naval commander.

COMMAND AND CONTROL

The Naval component commander exercises operational control as designated by the JFC through the numbered fleet commanders and/or task forces organized directly subordinate to the Navy component commander. These forces are task-organized with battle forces, task forces, task groups, task units, and task elements composed of individual units necessary for specific operational missions. The officer in command of any of the task organizations is designated as the officer in tactical command (OTC) and has primary responsibility for executing his force's mission. The Navy component commander may create as many task groupings as necessary, assigning OTC responsibilities as he sees fit. That the Navy component commander retains a theater-level perspective on naval operations for the JFC is critical. To facilitate execution and combat responsibilities, the Navy uses a C² arrangement referred to as the composite warfare commander (CWC) concept. Command and control integrates ships, submarines, aircraft, and ground forces so their multinational effectiveness can be extended throughout our battle space.

COMMAND, CONTROL, COMMUNICATIONS, COMPUTERS, AND INTELLIGENCE (C⁴I)

C⁴I encompasses the gathering, processing, and distribution of information vital to the conduct of military planning and operations. In peacetime, command, control, and surveillance systems permit us to monitor situations of interest, giving us indications and warnings that allow us to position our forces when necessary. In humanitarian relief and other support operations, our command and control system becomes part of the overall network by tying together diverse government and nongovernment agencies, as well as the many international and interservice forces that may join the operation. Warfare in every dimension of the battle space—and even within many weapon sys-

tems—requires external information. Success in modern warfare requires that commanders and their forces have high-quality, accurate, and tailored intelligence, navigation, meteorology/oceanography, mapping/charting, and communications. Because naval C⁴I is so important, commanders also seek to degrade or interrupt the adversary's information support systems and structure. At the same time, operations security is essential to denying the enemy knowledge of our capabilities and intentions. Integrating global C⁴I systems that directly link and support naval and joint forces will provide us an accurate picture of the battle space. Battle space dominance and projection of power ashore require effective C⁴I capabilities.

COMPOSITE WARFARE COMMANDER CONCEPT

The Navy employs the CWC concept as the doctrinal keystone of its task force operational and tactical C² system. The CWC concept enables the OTC of a naval force to aggressively wage defensive combat operations against air, surface, and subsurface threats while concurrently carrying out the primary offensive mission of the force. The concept is designed to prevent an enemy from saturating a single command node with a large number of rapidly closing air, surface, and submarine threats. Subordinate warfare commanders are responsible to the CWC for the conduct of the tactical battle. Warfare commanders may include the antiair warfare commander (AAWC), antisurface warfare commander (ASUWC), antisubmarine warfare commander (ASWC), strike warfare commander (STWC), and the command and control warfare commander (C²WC). All warfare commanders are responsible for collecting, evaluating, and disseminating tactical information; planning and coordinating with other warfare commanders; and, when authorized by the CWC, tactically controlling assigned resources and autonomously initiating action. For the commander of a

ship to be a subordinate warfare commander at the same time that weapons systems on the ship are tasked to support or even be fired by another warfare commander on another ship is highly possible. **NOTE:** The CWC concept is undergoing revision; significant conceptual and structural changes have been and will continue to be implemented.

THE OFFICER IN TACTICAL COMMAND/ THE COMPOSITE WARFARE COMMANDER

The OTC has overall responsibility for the successful accomplishment of the mission of his force. Offensive mission objectives are of overriding importance and may not be delegated. Normally, the OTC and the CWC are the same individual; however, in large forces where overall mission direction and control demand the total attention of the OTC, tactical command may be delegated to a separate CWC to wage combat operations to counter threats to the force. The OTC/CWC—

- Promulgates plans and policies, orders degrees of readiness, and directs and monitors task force operations in order to accomplish the objectives.
- Promulgates force disposition, position, and movement and establishes a force surveillance area.
- Designates warfare commanders and coordinators, alternates, and sector authorities as appropriate and maintains the force command and coordination structure. When assigning warfare commanders and coordinators, the CWC takes into consideration the nature, severity, and relative priorities for dealing with the expected threat; the size, composition, and distribution of the force; and the suitability of C² equipment and living and working space available in the various platforms in the force. Under certain circumstances, the OTC/CWC may find it convenient to assign special commanders and coordinators, such as a sector warfare commander, functional group commander, screen commander, maneuvering coordinator, and helicopter element coordinator. The specific duties and authority of these commanders and coordinators will be defined in the force gen-

eral operations messages (OPGENs)—formatted messages by which the OTC/CWC promulgates the duties and responsibilities of subordinate commanders and coordinators.

- Specifies chain of command among OTC/CWC, the forces under his tactical control, the principal warfare commanders, and the supporting coordinators.
- Provides air, surface, and subsurface units as available to the appropriate warfare commanders; coordinates their respective efforts; and, when necessary, prioritizes their requirements in light of limited assets, force mission, and current threat.
- Arranges for coordination of air, surface, and subsurface operations with other friendly forces operating within or adjacent to the CWC's force.

SUPPORTING COORDINATORS

Assisting the CWC and the subordinate warfare commanders are supporting coordinators. Supporting coordinators differ from warfare commanders in that coordinators execute policy but do not have control of forces and do not initiate autonomous actions. The primary supporting coordinators are the air resource element coordinator (AREC), who is responsible for managing and coordinating the allocation and distribution of carrier aircraft, and the submarine operations coordinating authority (SOCA), who is responsible for coordinating the actions of direct support submarines.

IMPLEMENTATION

The CWC may utilize a part or all of the concept as required by the situation. Actual at-sea C² arrangements are promulgated by the CWC in OPGENs. A force's OPGEN will include instructions on dispositions, maneuvering, ROE, emissions control policy, readiness conditions, threat assessment, designation of warfare commanders and coordinators, and assignment of particular responsibilities. Periodically, the OTC/CWC will issue updates. Regardless of the amount of authority delegated, the CWC retains the option of control by command override.

RESPONSIBILITIES

Although all warfare commanders have some interface with the TAGS, the primary operators

are the STWC, AAWC, and the AREC. Coordination with component commanders outside the na-

val force is accomplished by the OTC/CWC and warfare commanders through the Navy component commander's staff to the service or functional component concerned. Subordinate warfare commanders issue operational tasking (OPTASK) and daily intentions messages to promulgate their intentions to the forces under their control. These messages are addressed to all concerned forces, both the naval forces and other service component forces performing missions for the OTC/CWC. Warfare commanders normally operate from the combat direction centers (CDCs) of the ships they actually command or in spaces specially equipped to accomplish their respective missions.

STRIKE WARFARE COMMANDER

The STWC coordinates the strike capabilities of the force with respect to air and naval cruise missile assets and, as such, has the greatest interface with the TAGS. Normally, the commander of the carrier air wing is appointed the STWC, and the commanding officer of the carrier the AREC. In multicarrier battle groups, one of the battle group commanders will be the STWC. Close coordination is required between the two to ensure that all the details are worked out to ensure efficient use of available assets.

The STWC appoints a strike planning team, headed by the mission commander, for each mission assigned to the air wing or force. The strike planning cell will do the detailed mission planning required to accomplish the strike. The strike planning cell accomplishes all coordination required within the carrier air wing. The strike operations section of the AREC's (carrier commander's) staff accomplishes coordination outside of the wing.

The STWC also coordinates with the ASUWC, the SOCA, and the force over-the-horizon coordinator (FOTC), who maintains the locations of enemy forces, for long-range strikes against opposing forces. The SOCA will also be involved in submarine-launched cruise missile strikes against land targets. Other service components tasked to participate in these operations will coordinate through the STWC.

ANTI-AIR WARFARE COMMANDER

The AAWC is responsible to the CWC for air defense and airspace control of the prescribed area around the battle group. The AAWC normally has control of fighter (anti-air warfare) aircraft, E-2C

(airborne early warning/control platform) carrier-based tankers, and long-range, surface-to-air, missile-capable ships.

ANTISURFACE WARFARE COMMANDER

The ASUWC is responsible to the CWC for the protection of the force against hostile surface units. The ASUWC also assumes control of assets provided by the AREC or other outside air power providers to accomplish war-at-sea missions.

COMMAND AND CONTROL WARFARE COMMANDER

The C²WC is normally a member of the OTC/CWC staff who is responsible to the OTC/CWC for the use of the electromagnetic spectrum in support of C²W. The C²WC conducts both defensive and offensive operations, including EW, electronic attack, electronic protection, operational security, signal warfare, cryptologic operations, satellite vulnerability, signal intelligence, and signal security. The C²WC uses naval assets to perform these missions or coordinates their performance by other components' air assets in support of naval operations.

AIR RESOURCE ELEMENT COORDINATOR

The AREC—normally the carrier commanding officer—is a resource manager and an air warfare planner and coordinator who acts as the air advisor to the OTC/CWC. The AREC is responsible for airspace planning and also aids the AAWC in the airspace control function. The AREC must be aware of the aircraft needs of the battle group or force; must ensure that the aircraft are used effectively; and must keep apprised of aircraft availability, maintenance readiness, configuration, and weapons load-out. The AREC must ensure that the OTC/CWC, warfare commanders, and supporting coordinators are kept fully apprised of carrier air operations and aircraft availability and assignment. The AREC, having assembled all requests for air support from the other warfare commanders, will, with the strike operations officer, produce the daily air plan which allocates aircraft to the various warfare commanders. In a multicarrier battle force, each carrier generates its own daily air plan. The OTC/CWC should issue a coordinated air-tasking message to provide overall guidance for the preparation of each carrier's daily air plan. Under certain circumstances, the AREC may exercise tactical control of particular aircraft, for example, tanker aircraft. However, primary duties are allocating carrier aircraft assets, execut-

ing the daily air plan, transferring control to the warfare commander or requestor of air services, informing the warfare commanders of the status of these assets, and reporting results achieved by them and the information gained from their sensors. The AREC is responsible for ensuring that all aircrews are properly briefed and debriefed

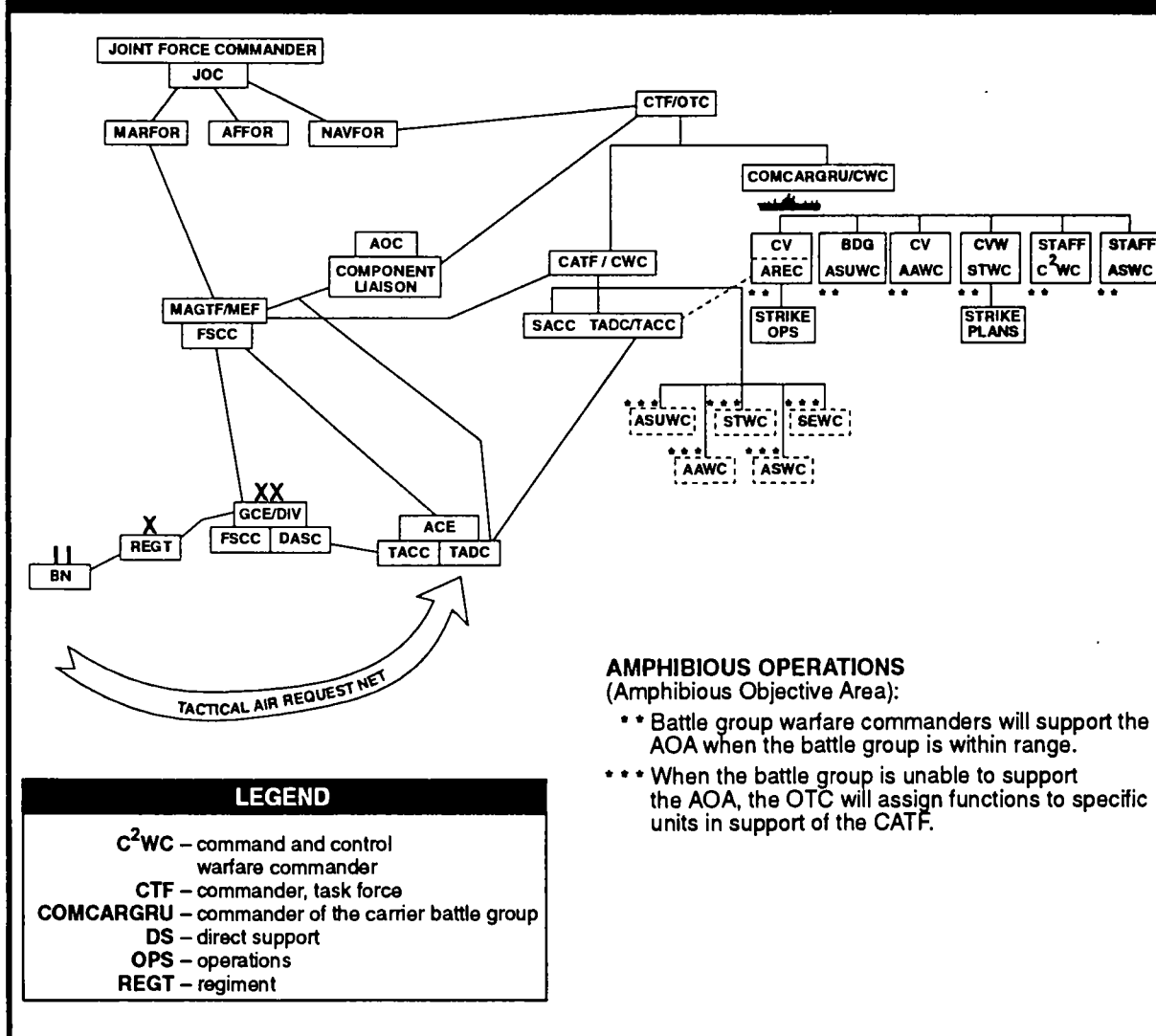
before and after all missions. The OTC/CWC provides the AREC with priorities when requisitions for air assets exceed available resources. The AREC and staff are the primary points of contact for the JFACC and staff on matters pertaining to air operations and planning.

NAVY TACTICAL AIR CONTROL SYSTEM (NTACS)

When the mission of the force is to conduct amphibious operations, the commander of the amphibious task force (CATF) organizes the NTACS to support air operations in the amphibious objective area (AOA). The NTACS is the orga-

nizational structure within which the CATF executes air operations in support of the mission and operates inside of and as a part of the OTC's CWC in the manner of a sector commander. Various elements of this system (Figure 4-1) are activated

FIGURE 4-1. NTACS Coordination Links



based upon the CATF's needs for C² of the force, forces assigned, and physical space limitations. When the NTACS is used in conjunction with the Marine Air Command and Control System (MACCS), it forms the Amphibious Tactical Air Control System.

TACTICAL AIR CONTROL CENTER

The Navy TACC (afloat) is the primary air control agency from which all air operations supporting the amphibious operation are controlled. It is generally established aboard the CATF's flagship and may be collocated with the CDC or located in a separate facility. The Navy TACC controls air support and antiair warfare forces in the AOA until control of these operations is passed to the commander, landing force (CLF). If the need arises for another air control agency in the battle area, a TADC is created as a backup to the Navy TACC and is assigned specific areas of operation in the battle area. The tactical air officer is responsible for the overall operation of the Navy TACC, which is divided into five sections: air traffic control, air support control, helicopter coordination, antiair warfare, and plans and support. Each has defined areas of responsibility.

AIR TRAFFIC CONTROL SECTION. The air traffic control section exercises control and coordination of all air traffic entering, operating within, or traversing the AOA, and coordinates search-and-rescue operations.

AIR SUPPORT CONTROL SECTION (ASCS). The ASCS exercises operational control and coordination of all aircraft (offensive air) assigned to strike warfare or troop support missions. The air support coordinator advises the supporting arms coordination center (SACC) of weapons loads, fuel status, and other data that will aid in mission assignment or coordination.

HELICOPTER COORDINATION SECTION. Transport helicopter operations are controlled by the helicopter direction centers (HDCs) located aboard aviation-capable amphibious ships. The helicopter coordination section provides oversight to all HDCs in the amphibious force, coordinates all transport helicopter operations, ensures requests for helicopter support are filled, and is prepared to control specific helicopter missions as required.

ANTIAIR WARFARE SECTION (AAWS). The AAWS coordinates all antiair warfare (AAW) operations in the AOA. The AAWS acts as an interface

between the CATF and the AAWC. Actual control of AAW assets usually remains with the AAWC.

PLANS AND SUPPORT SECTION. The plans and support section conducts current and future planning, assembles and distributes the daily air plan or ATO, assembles reports, and provides all communications support.

SUPPORTING ARMS COORDINATION CENTER

A SACC is located aboard an amphibious command ship, close to the Navy TACC, in which all communications facilities incident to the coordination of fire support of artillery, air, and naval surface fire support are centralized. SACC is the naval counterpart to the landing force's FSAC. The Navy TACC and the SACC are separate organizations but work closely in planning, controlling, and coordinating offensive air and assault support. The Navy TACC supports the SACC by informing it of air operations. The SACC supports the Navy TACC by exercising responsibility for overall coordination of supporting fires. The interface between the TACC and the SACC is provided by the air support controller. Amphibious task force personnel in the SACC include the supporting arms coordinator (SAC), the air support controller, landing force personnel, and other amphibious task force personnel.

SUPPORTING ARMS COORDINATOR. The SAC is a naval officer who, as the CATF's representative in the SACC, is responsible for supervising or planning and exercising overall coordination of the delivery of supporting fires.

AIR SUPPORT CONTROLLER. The air support controller is a naval aviator that the tactical air control group or tactical air control squadron provides to the CATF. The air support controller supervises the ASCS, which performs the functions of a direct air support center (DASC) until the DASC is established ashore. The ASCS and DASC may be considered as the functional equivalents of an Air Force ASOC in the theater air control/air-ground system.

LANDING FORCE PERSONNEL. Landing force personnel in the SACC representing the commander, landing force (CLF), include a landing force fire support coordinator (LFFSC), a landing force air officer, an artillery officer, a landing force naval gunfire officer, a low-altitude air defense representative, an electronic warfare officer, and an ACE LNO.

OTHER AMPHIBIOUS TASK FORCE PERSONNEL. Other amphibious task force personnel include

the naval gunfire control officer, the gunfire support officer, and the target intelligence officer.

AIR CONTROL AND PASSAGE OF CONTROL ASHORE

The nature of amphibious operations requires a formal system of passage of control to ensure that continuous fire support is provided to the landing force. The CLF/MAGTF commander exercises responsibility for the coordination of supporting fires through FSCCs and MACCS agencies. Each agency must ensure that it has the required information and communications before fire support coordination responsibility is passed. When the ground combat element (GCE) commander is confident that the necessary facilities, communications, and information are available to conduct coordination of fires within the GCE area of influence, the CLF is informed by message. At this point, the FSCC assumes primary responsibility for fire support coordination while the SACC assumes a backup role. Similarly, when the ACE commander is confident that the necessary facilities, communications, and information are available, the CLF is also informed by message. Because various aviation functions may be phased ashore incrementally, the ACE specifies those capable of being performed. Once the ACE has established a Marine TACC and assumed control ashore, the Navy TACC (afloat) becomes a TADC, backing up the Marine TACC ashore.

AIR CONTROL

Air control is normally phased ashore as MACCS facilities become functional. The DASC is normally the first major MACCS agency ashore, along with the FSCC. Frequently, the CATF will initially transfer control of offensive air support (OAS) and retain control of other aviation functions. When this occurs, the CATF will apportion

and allocate among the various mission requirements, just as the MAGTF commander does when he controls all air support. The CATF then provides an allocation of sorties for OAS to the CLF/MAGTF commander, who distributes sorties to subordinate commanders. The process is usually repeated every 24 hours. It is important, when the CATF makes the apportionment decision, for the LFFSC in the SACC to ensure that the CATF's staff is aware of the landing force's projected requirements for the next 24 hours.

PASSAGE OF CONTROL ASHORE

As the MAGTF's GCE and ACE C² elements are being established ashore and the tactical situation permits, the MAGTF command element begins establishing the MAGTF command operations center ashore. Some LF/MAGTF FSCC personnel move ashore and establish the LF/MAGTF FSCC. Remaining LF/MAGTF personnel continue to man spaces in the SACC to assist the SAC in fire support coordination. When the MAGTF command element is ashore and it, the GCE, and ACE C² facilities are functional, the CLF submits a request to the CATF to assume responsibility for supporting arms coordination. The CATF will indicate approval of the transfer of control and coordination by formal message. Upon approval of the passage of control and overall responsibility of supporting arms, the CLF will complete the sequence by notifying the GCE and ACE of the date and time specified for the passage to occur. After this time, the Navy TACC (afloat) and SACC will revert to a back-up status for the now functional MACCS/FSCC.

Naval forces, including both carrier- and land-based air and associated amphibious land combat elements, maneuver from the sea to dominate littoral areas. They possess the mobility and flexibility to mass strength against an enemy that cannot defend adequately everywhere. Naval forces provide an economy-of-force tool by forcing the enemy to be prepared to defend long coastal areas, thus weakening the enemy at the intended focus of effort. Carrier and cruise missile firepower can also operate independently or in conjunction with other services' air assets to provide quick interdiction or retaliatory strike capability. Navy air forces can provide additional forces to TAGS or can provide the entire TAGS, if required.

CHAPTER 5

MARINE CORPS COMPONENT

The Marine Corps retains a unique place among the service components. Its warfighting organization—the MAGTF—is essentially a miniature joint force. The integration of the MAGTF into the TAGS poses doctrinal and organization challenges to the JFC, the MAGTF commander, and the other service component commanders. This chapter discusses the MARFOR's mission, its warfighting doctrine, the MAGTF concept, the role of Marine Corps aviation, the aviation and fire support control systems currently in use, and the system used to control air support in amphibious operations with the Navy.

MISSION

The MARFOR's mission is to support the JFC's campaign. Assigned tasks may include—

- Amphibious warfare (LF matters).
- Land operations contributing to a naval operation, including the seizure and defense of advanced naval bases, attack of enemy support facilities, seizure of areas blocking passage of enemy naval forces, and land-based air operations in support of the fleet.
- Naval political reinforcement operations up to and including intervention.
- Naval support, amphibious or otherwise, of continental campaigns.
- Joint and multinational operations where the MARFOR operates as part of a joint/multinational task force, either as an inclusive element or as the principal framework.
- Security support for certain naval bases and stations or areas.

COMPONENT OPERATIONS

The Marine Corps concept for conducting operations is maneuver warfare—a way of thinking about war that shapes every action. It is a state of mind born of bold will, intellect, initiative, and ruthless opportunism. In short, maneuver warfare is *fighting smart*.

Maneuver warfare is a warfighting philosophy where the MAGTF seeks to shatter the enemy's cohesion through a series of rapid, violent, and unexpected actions. These actions create a turbulent and rapidly deteriorating situation with which the enemy cannot cope. The MAGTF concentrates strength against enemy critical vulnerabilities, striking quickly and boldly where, when, and how it will cause the greatest damage to the enemy's ability to fight. Because critical vulnerabilities are rarely obvious, the MAGTF must exploit every opportunity. When the decisive opportunity arrives, the MAGTF exploits it fully and aggressively, committing all its combat power. The ability and willingness to exploit these opportunities generate decisive results. Inherent in maneuver warfare is the need for relative speed to seize the initiative, dictate the terms of combat, and keep

the enemy off balance. Relative speed depends on mobility. This is not to imply that firepower is unimportant; the use of firepower contributes to the enemy's shock and moral disruption.

FIREPOWER AND MOBILITY

Firepower and mobility are two of the best elements to use when considering the employment of military forces. They are complementary and mutually dependent. Firepower aids mobility by causing destruction or confusion so that the enemy cannot block or oppose movement. Mobility is used to position a force, including its firepower assets.

Aviation increases and complements the MAGTF's firepower and mobility. These capabilities are not unique to aviation, but aviation offers unique capabilities within each. Aviation-delivered firepower damages or threatens to damage enemy personnel, facilities, and equipment. This damage (or its threat) sometimes fulfills the purpose of the mission: to destroy an enemy force or keep the enemy from using a certain road.

Aviation relieves some of the burden on ground combat units to move and carry large amounts of ordnance. With its ability to cover distances rapidly, aviation provides the MAGTF commander with overwhelming amounts of firepower on short notice. The goal is not the unfocused application of firepower to incrementally reduce the enemy's strength. Maneuver warfare calls for the focused use of firepower to fit a larger purpose. Its selective application contributes to the enemy's shock and moral disruption.

Mobility allows the MAGTF commander to focus firepower where it can best be used to achieve a decision. Mobility is tied to the use or threat of firepower. Aviation provides the MAGTF tactical and operational mobility, "the ability to move *within* an engagement or battle and to move *between* engagements or battles." Aviation allows the MAGTF to rapidly reposition forces to any location in the battle space. With this ability, the MAGTF can conduct tactical and operational actions at a tempo higher than that of the enemy. This relative tempo advantage allows the MAGTF to shift quickly from one action to another. Aviation can also provide a tempo advantage to the MAGTF by stopping or slowing enemy movement.

COMBINED ARMS

Combined arms is the integration of arms in such a way that, to counteract one, the enemy must

become more vulnerable to another. Whatever action is taken to avoid one "arm" opens up the enemy to another. Actions are designed so that any enemy reaction is equally disastrous.

The "arms" that can be used to create a dilemma are not limited to firepower means: aviation, artillery, and infantry. Marines can create combined arms effects using maneuver of forces, sustainment capability, deception, EW, psychological operations, command and control warfare, and SO. The MAGTF takes advantage of the asymmetrical and complementary characteristics of different types of "arms" to gain the leverage to destroy the enemy.

The Marine Corps uses combined arms at the tactical and operational levels of war. Tactically, a commander can pin down the enemy with direct-fire weapons, making him vulnerable to CAS. If enemy forces move to escape the air attacks, they come under direct fire. Marines link the combined arms effects of smaller units to produce a larger combined arms effect. Operationally, the commander can use aviation to isolate an enemy force from reinforcements or supplies. The commander can then strike the isolated enemy force. The enemy must either fight and face irreplaceable losses or abandon the field and come under aviation and artillery attack.

MARINE AIR-GROUND TASK FORCE

The Marine Corps uses the MAGTF to employ the combined arms concept. The MAGTF is a self-sufficient, integrated, balanced air-ground combined arms force. The composition of the MAGTF is based on the theater or JFC's operational requirement or task. It is a building block concept drawing appropriate units into an air-ground-logistics team under one commander. The size of the MAGTF and its components will vary depending on the mission. Notional task organizations include the MEF, Marine expeditionary force (forward) (MEF(FWD)), the forward element of a MEF, and Marine expeditionary unit (MEU), which are described in Figure 5-1.

All MAGTFs, regardless of size, have the same elements. In each case, a command element (CE),

a GCE, an ACE, and a combat service support element (CSSE) are included. The MAGTF can provide a cohesive combined arms team capable of fulfilling assigned missions with little or no outside support. MAGTFs present unique military capabilities, limitations, and organizational requirements. Using maneuver warfare, the MAGTF produces decisive results with forces of moderate size. The MAGTF commander must advise higher headquarters on the effective use of the MAGTF. Without participation of the MAGTF commander, improper employment of the MAGTF—both operationally and tactically—or even oversight of its potential contributions is a risk.

MARINE CORPS AVIATION

Marine Corps aviation's primary mission is to participate as the MAGTF's air component. Marine Corps aviation supports the seizure and de-

fense of advanced naval bases and conducts essential air operations during naval operations. As a collateral mission, Marine Corps aviation par-

FIGURE 5-1. MAGTF Notional Task Organizations

MARINE EXPEDITIONARY FORCE

The MEF may range in size from less than one full division to several divisions and an aircraft wing or wings. A division-size MEF would consist of one division and one wing; the ground combat element includes nine infantry battalions in three regiments. Normally, a force of this size also would include one artillery regiment, a tank battalion, an assault amphibian battalion, a light armored infantry (LAI) battalion, a combat engineer battalion, and a reconnaissance battalion. The combat service support element could provide supplies, maintenance, engineering, motor transport, and medical and dental care for 60 days.

MARINE EXPEDITIONARY FORCE (FORWARD) (MEF(FWD))

The MEF(FWD) is the lead element of the MEF. The MEF(FWD) GCE, a reinforced infantry regiment, is composed of two to five infantry battalions, an artillery battalion, a tank company, a combat engineer company, a reconnaissance company, an assault amphibian company, and a TOW platoon. A Marine air group provides organic air support. Designed to operate for 30 days without resupply, the MEF(FWD) quickly can establish procedures for resupply and for substantially longer periods of shore operations. It normally is embarked aboard approximately 26 Navy amphibious ships. The MEF(FWD) may be deployed forward as a floating ready force or may be airlifted forward rapidly. MEF command elements actively prepare for employment with the three maritime pre-positioning ship squadrons in the Atlantic and Pacific Oceans. These ships carry substantial proportions of MEF(FWD) equipment to forward assembly areas for link-up with airlifted personnel and essential equipment.

MARINE EXPEDITIONARY UNIT (MEU)

The MEU consists of a reinforced infantry battalion and a reinforced helicopter squadron. Usually sea-based, the MEU is the Marine Corps' most responsive air-ground task force. It normally is prepared to assault with 15 days of available ammunition, food, fuel, water, and medical supplies. It can be reinforced or resupplied rapidly. Usually embarked aboard three to five US Navy amphibious ships, the MEU also may be airlifted. Two to three MEUs usually are deployed forward or are standing ready for immediate movement to forward combat areas or peacetime crisis points.

icipates as an integral component of naval aviation.

AIR OPERATIONS AUTHORITY

The MAGTF commander delegates air operations authority to the ACE commander, who exercises authority through the MACCS to effectively command, coordinate, and control MAGTF air operations. The MACCS provides the ACE commander with the means to exercise centralized command and coordination and decentralized control, allowing for operational flexibility and rapid response to changing tactical situations.

OMNIBUS AGREEMENT

In 1986, the Joint Chiefs of Staff endorsed the Omnibus Agreement for the use of MAGTF aviation during sustained operations ashore. The

agreement provides for the MAGTF commander to retain operational control of organic air assets and for MAGTF aviation normally to support the MAGTF mission. This policy, which is directly related to TAGS and joint air operations, is provided below:

The Marine Air-Ground Task Force (MAGTF) commander will retain operational control of organic air assets. The primary mission of the MAGTF air combat element is the support of the MAGTF ground element. During joint operations, the MAGTF air assets will normally be in support of the MAGTF mission. The MAGTF commander will make sorties available to the joint force commander, for tasking through the joint force air component commander, for air defense, long-range interdiction, and long-range reconnaissance.

Sorties in excess of MAGTF direct-support requirements will be provided to the joint force commander for tasking through the joint force air component commander for the support of other components of the joint force or the joint force as a whole.

Nothing herein shall infringe on the authority of the theater or joint force commander in the exercise of operational control, to assign missions, redirect efforts (e.g., the repositionment and/or reallocation of any MAGTF TACAIR sorties when it has been determined by the joint force commander that they are required for higher priority missions), and direct coordination among the subordinate commanders to ensure unity of effort in accomplishment of the overall mission, or to maintain integrity of the force as prescribed in Joint Pub 0-2.

AVIATION COMBAT ELEMENT

The MAGTF ACE, which fulfills expeditionary aviation requirements, is sized to the mission and may range from a squadron to multiple Marine Corps aircraft wings. It adds a dimension of flexibility, firepower, and mobility to the MAGTF that it would not have otherwise. Normally, only one ACE is in a MAGTF, and it is not a permanent organization. The ACE is tailored to provide air support for the MAGTF's mission. The MAGTF commander, who receives advice from the ACE commander concerning effective employment of the ACE, makes final decisions concerning ACE missions, tasks, and priority of effort. Execution of the MAGTF operation relies on successful tactical air operations. The ACE, which organizes around an aviation headquarters—

- Supports the MAGTF commander in any or all of the functional areas of Marine Corps aviation.
- Plans and employs aviation to locate and destroy enemy forces and supporting installations.
- Provides direct air support to the MAGTF.
- Provides combat assault airlift support to the MAGTF.
- Searches for, locates, identifies, and intercepts radiated electromagnetic energy.
- Conducts AAW operations, including coordination and control of fighter aircraft and surface-to-air weapons.

- Gains and maintains air superiority.
- Prevents movement of enemy forces into and within the area of operations.

FUNCTIONS

Marine Corps aviation performs the following doctrinal functions: antiair warfare, offensive air support, assault support, air reconnaissance, electronic warfare, and control of aircraft and missiles.

ANTIAIR WARFARE. AAW's purpose is to gain and maintain the necessary air superiority for the MAGTF to conduct ground and air operations without prohibitive interference from enemy air action. The success of any campaign depends on air superiority.

OFFENSIVE AIR SUPPORT. OAS isolates the battlefield, projects firepower to shape events in time and space, and delivers firepower against enemy installations, facilities, and personnel. OAS destroys enemy resources and isolates the enemy's military force, allowing the MAGTF commander to influence future battle. The MAGTF commander uses OAS to create a dilemma for the enemy. If the enemy moves to confront friendly forces, enemy forces are exposed to aviation assets. If the enemy cannot move or employ forces or is unable or unwilling to sustain losses, initiative and tempo are lost. OAS does not include air operations to reduce an enemy's air capability. It is categorized as CAS and deep air support (DAS).

Close Air Support. CAS, which is used against hostile targets located close to friendly forces, requires detailed integration with a friendly ground force's fire and movement. The supported ground unit commander requests or approves all CAS missions in the area of operations. CAS is restricted to missions that actually deliver firepower on enemy troops or installations. It allows the MAGTF commander to concentrate aviation at the decisive place and time to achieve local combat superiority and take advantage of fleeting battlefield opportunities.

Deep Air Support. Although it may require some coordination, DAS does not require detailed integration with a friendly ground force's fire and maneuver. It does require a complete understanding of the MAGTF commander's intent and scheme of maneuver and allows him to shape the battlefield. DAS also allows the MAGTF commander to determine enemy operational intentions, delay enemy reinforcements, degrade critical enemy

functions or capabilities, and manipulate enemy perceptions. DAS attacks enemy formations, lines of communications, and C² centers. DAS missions are conducted on both sides of the fire support coordination line (FSCL). The two categories of DAS are air interdiction and armed reconnaissance.

- Air interdiction denies the enemy use of a particular area, route, or facility, increasing the enemy's consumption of supplies, movement of troops and equipment, and reliance upon lines of communications. It also increases the enemy's vulnerability to air attack and provides friendly forces with lucrative targets. Air interdiction plays an important role in the MAGTF's ability to neutralize or destroy the enemy's fighting capability.
- Armed reconnaissance provides the MAGTF commander with an economy-of-force measure to cover and defend terrain not suited to other forces. Armed reconnaissance identifies enemy forces and engages them before they can threaten MAGTF forces.

Preplanned Requests. Preplanned requests are performed according to a schedule. They are planned far enough in advance to permit detailed mission coordination. Preplanned requests are either scheduled or on-call. Scheduled missions, which are executed at a specific time, provide for effective coordination and economical use of aircraft and ordnance. Each intermediate level of command must approve scheduled missions. On-call missions are prepared for a particular target and placed in readiness. The supported unit requests activation of the on-call mission. Immediate requests meet needs that arise during battle and that cannot be identified far enough in advance to permit detailed mission coordination and planning. The MACCS provides appropriate C² agencies to monitor, approve, and control immediate requests.

MARINE AIR COMMAND AND CONTROL SYSTEM

MACCS provides the ACE commander with the means to command, coordinate, and control air operations (Figure 5-2). The Marine Air Control Group (MACG) provides the personnel and equipment to staff, operate, and maintain the MACCS. Major MACCS agencies established by the MACG include—

- A tactical air command center.
- A tactical air direction center.

ASSAULT SUPPORT. Assault support operations provide air transportation of personnel, supplies, and equipment into or within the area of operations and ensure the rapid buildup of combat power. Assault support allows forces to bypass terrain obstacles, avoid hostile areas, maneuver over the entire battlefield, and rapidly resupply combat forces. It requires detailed, coordinated, and concurrent planning at all levels. Categories of assault support include combat assault transport, air delivery, aerial refueling, air evacuation, tactical recovery of aircraft and personnel, that is, combat rescue, air logistical support, and battlefield illumination.

AIR RECONNAISSANCE. Air reconnaissance provides the MAGTF commander with information that can be used to influence operations. Air reconnaissance collects multisensory imagery of areas of interest; provides and maintains surveillance of areas of interest; provides rapid and current information on enemy composition, disposition, activity, installations, and terrain; and supports the direction and adjustment of artillery and naval surface fire support (NSFS).

ELECTRONIC WARFARE. EW provides timely information on the enemy, disrupts the enemy's use of the electromagnetic spectrum, and provides for the MAGTF's use of the electromagnetic spectrum despite enemy EW. EW also neutralizes enemy radars and provides the MAGTF commander with information to update the enemy's order of battle.

CONTROL OF AIRCRAFT AND MISSILES. Control of aircraft (fixed wing, rotary, and UAVs) and missiles provides the MAGTF commander with the ability to employ aviation combat element assets to influence combat operations. It includes the facilities, equipment, communications, procedures, and personnel to plan, direct, and control the ACE's effort. Collectively, these facilities comprise the MACCS.

- A tactical air operations center (TAOC).
- A direct air support center.
- A helicopter direction center.
- Marine air traffic control squadron (MATCS) detachments.
- Terminal control agencies.

[illegible]

The TACC is the senior MACCS agency and the one MACCS agency that exercises command. It serves as the ACE commander's operational command post. The TACC provides the facility from which the ACE commander and the battle staff plan, supervise, coordinate, and execute all current and future MAGTF air operations. The battle staff is divided into two sections. One handles current MAGTF air operations while the other plans future operations. The TACC originates all air defense control measures, including air defense warning conditions and weapons control status.

A TADC is established during amphibious operations and functions as the senior MACCS

TACTICAL AIR OPERATIONS CENTER (TAOC)

The TAOC, subordinate to the TACC, is the principal agency responsible for airspace control and management. It provides real-time surveillance of assigned airspace and direction, positive control, and navigational assistance for friendly aircraft. It performs real-time direction and control of AAW operations involving aircraft and surface-to-air weapons. By collecting and displaying

information from its own sensors, other MAGTF sources, and external sources (other services and nations), the TAOC controls assigned airspace and directs and controls the fires of assigned air defense assets. The TAOC can operate as an alternate TACC for limited periods.

DIRECT AIR SUPPORT CENTER

The DASC is the principal air control agency responsible for the direction of air operations directly supporting ground forces. It functions in a decentralized mode of operations but is directly supervised by the TACC. Normally the first major air control agency ashore, it lands with the GCE's senior FSCC. The DASC, which is normally collocated with the GCE's senior FSCC, processes and coordinates requests for immediate air support and procedurally controls aircraft transiting its area of responsibility. It coordinates air missions requiring integration with ground forces, including CAS, assault support, and designated air reconnaissance missions. The DASC-A, an airborne version of the DASC with limited capability, is available in specifically configured KC-130 aircraft.

HELICOPTER DIRECTION CENTER

The HDC is an agency within the Navy TACC that controls helicopter ship-to-shore movement during amphibious operations. Although the HDC is not a part of MACCS, coordination is required among the TACC/TAOC, the DASC, and the HDC.

MARINE AIR TRAFFIC CONTROL SQUADRON DETACHMENTS

MATCS detachments provide all-weather air traffic control services to forward operating bases. They are task-organized based on volume and type of air traffic, expected duration of deployment, and external support availability. They have a control tower, surveillance, precision radar, and navigational aid capabilities. Surveillance radars allow MATCS personnel to provide aircraft navigational and separation services and early warning and detection information to other MACCS agencies. MATCS detachments furnish air traffic control support to helicopter support teams (HSTs).

TERMINAL CONTROL AGENCIES

Terminal control agencies perform air control functions in that they manage the final delivery of ordnance, cargo, or personnel and accomplish other specialized tasks not performed by other air

controllers. Some terminal control agencies are not organic to the ACE but are integrated into the MACCS through communications, doctrine, and procedures.

TACTICAL AIR CONTROL PARTY. A TACP plays an integral role in the MACCS but is responsible to the supported commander for employment and coordination of assigned supporting aircraft. TACPs are organic to the GCE and establish and maintain liaison and communications between parent units, airspace control agencies, and supporting aircraft. A TACP participates in fire support coordination and advises the ground unit commander concerning the employment of supporting aircraft.

Forward Air Controller. The FAC is a naval aviator or naval flight officer who is a member of the TACP. The FAC controls aircraft providing direct air support to ground forces and operates from forward ground positions.

Forward Air Controller (Airborne). A FAC(A) conducts air reconnaissance/surveillance and provides terminal control of OAS missions and artillery and NSFS spotting. FAC(A)s can also provide radio relay for ground FACs. A FAC(A) is the functional equivalent of the USAF airborne forward air controller (AFAC).

Tactical Air Coordinator (Airborne). The TAC(A) is an experienced aviator or naval aerial observer, operating from an aircraft, who coordinates the action of combat aircraft engaged in close support of ground or sea forces. The TAC(A) is an airborne extension of the DASC or TACC/TAOC. TAC(A) assignment depends on mission requirements and aircraft availability. The DASC or the TACC/TAOC will identify specific TAC(A) authority. A TAC(A) provides airspace coordination and coordinates the employment of aircraft with other supporting arms. To fulfill these responsibilities, the TAC(A) coordinates with the assault support coordinator (airborne) (ASC(A)), TACPs, FSCCs, subordinate FAC(A)s, and artillery and NSFS units. The TAC(A) requires in-depth knowledge of the MACCS airspace management, fire support coordination, and fixed- and rotary-wing operations and capabilities. If properly trained, FAC(A)s can act as TAC(A)s, but they do not perform both missions simultaneously.

Assault Support Coordinator (Airborne). The ACE commander provides an ASC(A) to provide air coordination and control during helicopter op-

erations. The ASC(A) serves as an extension of the DASC or HDC in support of the air mission commander. An ASC(A) provides information concerning enemy operations and weather along approach and retirement routes and in landing zones (LZs), route alterations, and supporting arms employment. The ASC(A) coordinates with TAC(A)s and FAC(A)s for employment of CAS. The DASC establishes support relationships between the ASC(A) and the TAC(A). ASC(A)s and TAC(A)s require the same type of in-depth knowledge and experience.

AIR/NAVAL GUNFIRE LIAISON COMPANY. An ANGLICO can be attached to US Army or allied forces to provide shore control of NSFS and CAS.

HELICOPTER SUPPORT TEAM. An HST task-organizes and equips to establish and operate helicopter pickup zones (PZs) and/or LZs. An ATC section from the MATCS augments personnel, who are drawn from the supported helicopterborne force and the supporting helicopter unit. Normally employed in each PZ/LZ, the HST assists in the pickup, movement, and landing of helicopterborne forces, equipment, and supplies and in evacuation of casualties and enemy prisoners of war.

INITIAL TERMINAL GUIDANCE (ITG) TEAM. An ITG team is able to provide terminal guidance for initial helicopter waves into the LZ. ITG teams are inserted into the LZ in advance of the HST.

THE FIRE SUPPORT COORDINATION SYSTEM

The Fire Support Coordination System is the means for the MAGTF commander to focus all fire support elements, including air, to accomplish the mission.

FIRE SUPPORT COORDINATION IN MAGTF OPERATIONS

THE COMMAND ELEMENT. The role of the MAGTF CE in fire support coordination is to implement the MAGTF commander's intent, which will be focused on the deep operation. The MAGTF's FSCC accomplishes this by planning and coordinating fire support for deep operations, tasking elements to attack targets of MAGTF interest, establishing the FSCL, coordinating with joint/allied forces, and disseminating information. At the MEF level, these functions are carried out within the combat operations center and the fire support coordination centers under cognizance of the G3. Within other MAGTF CEs (SPMAGTF, MEU, and so forth), these functions are carried out in the combat operations center under the cognizance of the operations officer.

THE MAGTF FIRE SUPPORT COORDINATION CENTER. An FSCC is a single location where communication facilities and personnel incident to the coordination of all forms of fire support are centralized. It is established at MAGTF level and at each echelon of the GCE down to battalion level. Under the staff cognizance of the G3/S3, the FSCoord organizes and supervises the FSCC, which is collocated with the combat operations center (COC). Normally, each FSCC will have an

artillery liaison element, a TACP, an NSFS element, and other liaison/operating fire support teams as required. Higher level FSCCs generally have a target intelligence element. The headquarters to which the FSCC belongs provides facilities, equipment, and material. Supporting arms units provide representatives and equipment necessary for conducting coordination, targeting, and communications functions for their respective arms. The MAGTF FSCC—

- Conducts targeting functions to meet the MAGTF commander's intent and may form a targeting committee. In joint operations, targeting is conducted in conjunction with the JFC's targeting effort.
- Provides MAGTF representation at the joint task force fire support meetings/conferences or joint targeting coordination board and arranges for fire support liaison to other services as required.
- Disseminates pertinent information to other elements of the MAGTF and to forces outside the MAGTF.
- Tasks elements of the MAGTF to perform those functions required to integrate supporting arms with each other and with other combat arms.
- Establishes reporting requirements, fire support coordination measures (including the FSCL), and procedures.

- Resolves fire support conflicts between other MAGTF elements when they cannot be resolved at lower levels.
- Provides inputs on the apportionment of aviation and NSFS efforts.
- Requests and coordinates external fire support or target acquisition support with higher, adjacent, and joint/allied forces.
- Coordinates with the GCE FSCC, ACE MACCS, and the rear area operations center (RAOC) to achieve air-ground integration. In amphibious operations, the MAGTF FSCC is the LF FSCC and provides the LF representation to the CATF's SACC.

THE MAGTF AIR OFFICER. Although not a part of the MAGTF FSCC, the MAGTF air officer (AO) has several fire support duties. These include providing expertise and advice on aviation matters to the MAGTF commander and the FSCC; establishing liaison with the ACE, GCE AO, and the AOs of higher and adjacent headquarters on aviation support and airspace management matters; determining MAGTF air support capabilities; preparing an aviation estimate of supportability; consolidating air support requirements; and preparing the air fire plan in the MAGTF operations order. In amphibious operations, the MAGTF AO mans LF stations in the SACC, works closely with the SAC, and maintains liaison with the air support controller (ASC) in the Navy TACC.

THE MAGTF TARGET INFORMATION OFFICER (TIO). A member of the MAGTF FSCC normally performs the functions of TIO, which is needed on the MAGTF CE. When designated, the TIO heads the target information section (TIS) of the FSCC and, in amphibious operations, serves as the LF TIO. The TIO uses information provided by the target intelligence officer (TGTINTELO), a member of the G2 section, to perform targeting functions. During operations ashore, the MAGTF CE supports the GCE targeting effort and ACE mission planning by rapidly responding to their requests for target data.

THE SURVEILLANCE, RECONNAISSANCE, INTELLIGENCE GROUP. The surveillance, reconnaissance, intelligence group provides the resources for surveillance, reconnaissance, intelligence, counterintelligence, EW, ANGLICO, SO missions, tactical deception, and communications to the MAGTF. This group also provides liaison,

in the form of ANGLICO units, to allied and Army forces of division size or smaller, and UAV support.

THE COMBAT SERVICE SUPPORT ELEMENT. The CSSE commander is normally assigned responsibility for the conduct of rear operations. Since no formal supporting arms coordination agency exists within the CSSE's RAOC, the CSSE may be augmented with fire support representatives. These ad hoc FSCCs perform their tasks through coordination with the MAGTF FSCC and the GCE FSCC for fulfillment of fire support requests. As the battlefield extends, the RAOC may have to interface with the TACC.

THE AVIATION COMBAT ELEMENT. The ACE provides the MAGTF air support. In addition to the Marine Corps aviation functions described above, the ACE—

- Disseminates target data, status of requested air support, and locations of friendly surface-to-air weapons to other elements of the MAGTF or to the MAGTF CE for further dissemination. The ACE receives targeting information, target guidance, and the fire support plan from the MAGTF.
- Conducts detailed aviation planning to support the MAGTF commander's concept of operations.
- Recommends objectives and target priorities to the MAGTF commander.
- Develops requirements for SEAD.

THE GROUND COMBAT ELEMENT. The role of the GCE in fire support coordination is largely determined by the size of the MAGTF involved. Higher echelons of command have greater capacity to conduct planning due to their larger staffs. A Marine Corps division headquarters can be made a GCE with a division operational mission, or it may be formed from division assets as a controlling headquarters for several Marine Corps divisions and employed much like a corps headquarters in Army operations. Regardless of its size, the GCE has critical fire support functions. The GCE provides pertinent information, such as the location of friendly artillery units, fire support coordination measures, and enemy anti-aircraft weapons, to other elements of the MAGTF directly or to the MAGTF CE for further dissemination as required.

The Targeting Committee. Because numerous and complex factors must be considered in the targeting process, the GCE commander needs advice from experts in several areas. The establishment and use of a targeting committee brings these specialists together as a matter of standard procedure.

The GCE Fire Support Coordination Center. The GCE's FSCC plans and integrates fire support within the GCE's area of influence. The FSCC conducts targeting; plans and coordinates the delivery of its organic fire support and the delivery of fire support provided by other means, such as NSFS, air, or EW; and integrates fires with maneuver in close operations. The FSCC coordinates with the other elements of the MAGTF and with adjacent external forces on fire support matters.

The Target Information Section. The TIS serves as the primary source of target information in the FSCC. It is oriented to the tactical support requirements of the command and the target information requirements of the FSCC for planning fires. Specific functions of the TIS include maintaining target data and target and situation maps; maintaining current target lists, including counter-mortar, counterbattery, and SEAD; publishing target bulletins; consolidating, evaluating, and displaying target information, along with recommending target classification and attack priorities to the FSCCOORD; collecting information pertaining to the results of attack on targets; and coordinating with the MAGTF TGTINTELO and artillery unit S2.

The FSCC/DASC. The senior FSCC is collocated with the DASC or the ACE's MACCS liaison team. The FSCC/DASC organization is capable of planning and integrating within the GCE's area of influence. The FSCC and the DASC require extensive information exchange.

- The FSCC provides the DASC with the commander's objectives and intent, friendly unit locations, positions of indirect-fire weapons, scheme of maneuver, boundaries, fire support coordination measures, maneuver checkpoints, and the schedule of fires. Pertinent intelligence data—particularly antiair threats, air targets that require terminal control which exceeds the GCE's organic TACP capability, and status of terminal controllers within the GCE—are also passed to the DASC.
- The DASC provides the FSCC with aircraft to perform missions, aircraft routing plans,

status of outstanding requests, changes to the air tasking order, UAV operations, operational status, and forward arming and refueling point status. The DASC also provides intelligence data, including battle damage assessments, to the FSCC. Finally, the DASC makes recommendations on air allocations and fire support control measures, and controls air defense weapons control status and warning conditions.

THE DIVISION FIRE SUPPORT COORDINATION CENTER. The Marine Corps division may, in large-scale operations, be used as an operational headquarters and perform the role of the GCE, or it may be used as a subelement of the GCE. When used as such, the division FSCC has a key role in targeting due to its much greater capability to collect and analyze target information. Division FSCC supporting arms representatives identify requirements, make estimates, and recommend the allocation of fire support means within the division. The division artillery officer (commanding officer, artillery regiment) is the division FSCCOORD and is supported by—

- The fire support coordination section, which provides liaison to division forces for artillery control and coordination. Through its experience, this section coordinates all supporting arms to support the scheme of maneuver or defensive plan.
- The TIS, which is normally formed upon activation of the FSCC during the initial planning phase. Its duties include target acquisition, dissemination of data, and attack recommendation and evaluation. The TIS is supervised by the TIO under the staff cognizance of the FSCCOORD and works closely with the TGTINTELO from the division G2 section.

THE DIVISION TACTICAL AIR CONTROL PARTY. In the division TACP, one of the officers is a FAC-qualified naval aviator/flight officer and the commander of the air and naval gunfire platoon. The second is an air support control officer. The division TACP is primarily concerned with executing air support and—

- Establishing and maintaining liaison and communications with appropriate control agencies.
- Informing and advising the ground unit commander on employment of aviation support,

including AAW and low-altitude air defense (LAAD).

- Preparing, forwarding, and coordinating air requests.
- Providing air support estimates.
- Prioritizing and resolving duplication and conflicting air support requests.
- Disseminating target information received through air support channels.
- Recommending fire support coordination measures as they relate to air support.
- Maintaining an air situation map.

THE NAVAL GUNFIRE SECTION. The naval gunfire section establishes and maintains facilities for liaison and communications between supported units and appropriate control agencies. The section informs and advises the ground commander on the employment of NSFS, requests and controls NSFS, and controls radar beacon teams.

THE DIVISION AIR SECTION. The division air section in the G3 consists of the division AO, assistant AO, and two air controllers. The air section is not a part of the division TACP or the FSCC but works closely with both. The division air—

- Advises the division commander and commanders of elements not having TACPs on matters concerning air support.
- Participates in development of operation plans and orders on matters pertaining to air employment.
- Participates with the FSCOORD in targeting and determining type of support.
- Prioritizes and resolves conflicts in air support requests.
- Prepares, forwards, and coordinates air support requests.
- Relays pertinent information to other tactical air control agencies.
- Maintains close liaison with the DASC to assist in coordination of air support.

THE REGIMENTAL FIRE SUPPORT COORDINATION CENTER. Regimental FSCCs play a key role in planning and using fire support. They assist the battalions in coordinating and granting

clearances for fires delivered in the regiment's zone of action beyond the battalion's zone. They also coordinate ingress and egress routes for CAS missions when aircraft routes are through the zone of action of units adjacent to the unit requesting the mission. Fire support planning at the regiment attempts to influence future operations, normally 24 to 48 hours in advance of the current battle and is significantly larger in scope than at battalion level. The regiment is normally the lowest level where commanders are allotted means to influence the battle significantly with fire support. The regimental commander selects as the FSCOORD any officer having the requisite knowledge of fire support. Organization of the FSCC is similar to battalions, except that no forward observers or FACs are assigned.

THE BATTALION FIRE SUPPORT COORDINATION CENTER. Most fire support coordination in operations is done at battalion level. In battalion FSCCs, calls for fire and air requests from the companies are monitored/received and acted upon by appropriate supporting arms representatives. Requests are checked to ensure that supporting arms are integrated with the scheme of maneuver and that friendly forces are not needlessly endangered. The battalion FSCOORD is the weapons company commander. Assistance is provided by a liaison section from the supporting artillery battery, an organic battalion TACP, a shore fire control party from the headquarters battery of the supporting artillery battalion, and a mortar liaison party from the battalion mortar platoon. The senior AO of the TACP acts in several capacities: as a special staff officer to the battalion commander in regard to all aviation matters, as the officer in charge of the battalion TACP, and as the air representative in the battalion FSCC. The other AOs serve as leaders of the forward air control parties and do a majority of preplanned and immediate requests for CAS to infantry companies to which they are assigned. Separate battalions operating as maneuver elements establish an FSCC that functions in the same manner as an equivalent-level infantry unit FSCC.

COMPANY FIRE SUPPORT COORDINATION. A company does not have an FSCC, as such. The company commander, assisted by the artillery forward observer, mortar forward observer, and, if assigned, a FAC and NSFS spotter, performs the fire support coordination necessary at company level. Coordination between companies is essential for effective battalion-level fire support coordination.

dination. Such coordination reduces the frequency with which FSCC personnel must intervene to cancel or modify requests for supporting arms and frees them for tasks the companies cannot accomplish.

FIRE SUPPORT COORDINATION IN AMPHIBIOUS OPERATIONS

Amphibious operations are the most complex of all military operations. Their success requires a common understanding of standard fire support coordination procedures between Navy and Marine Corps forces. The amphibious assault is first and foremost an offensive operation. Consequently, the principles of offensive fire support apply. As the buildup of combat power ashore begins from a base of zero, the FSCoord must plan on incrementally increasing supporting arms support throughout the assault. Even under the best of conditions, the difficulty of placing artillery ashore in the first hours of the assault places heavier than usual reliance on mortars, NSFS, and OAS. The functions of the SACC are covered in Chapter 4.

During amphibious operations, the CATF initially discharges control and coordination of aircraft. When control of air operations has been passed to the CLF, the ACE coordinates air operations in the objective area, including AAW and airborne EW, but excluding antisubmarine warfare, sea mining, and mine countermeasures operations. The ACE and FSCC provide representation to the SACC.

NAVY TACTICAL AIR CONTROL SYSTEM. In amphibious operations, the CATF is the overall commander of the operation. Command and control functions for Marine Corps forces with the amphibious task force (ATF) are normally under the operational control of the CATF until those forces are ashore and passage of command and control to the CLF is executed. The CATF establishes the NTACS, which includes a Navy TACC to control air operations, and a SACC for the supervision of supporting arms employment for the operation. The CLF is the MAGTF commander. When the CLF is ashore and control and coordinating agencies are operating effectively, the CATF passes responsibility for the control and coordination of supporting arms to the CLF upon the CLF's request. The combination of the NTACS and the MACCS is referred to as the amphibious TACS.

FIRE SUPPORT PLANNING. Fire support planning in amphibious operations involves making detailed, simple, and executable plans that pro-

vide the assault battalions flexibility by allotting fire support to them where possible. Fire support coordination measures are used that allow the CATF to attack deep targets while providing close support to the LF. Finally, planning should facilitate speed in execution while maintaining uninterrupted support.

FIRE SUPPORT TASKS. Pre-D-day fire support tasks include assisting in gaining air superiority, destroying or neutralizing those targets that can prevent the execution of the landing, and providing fire support as part of the deception effort. D-day fire support focuses on providing immediately responsive close fires to the assault elements, suppressing hostile shore defenses, and isolating the landing area. Post H-hour support encompasses protecting friendly units during initial advance inland and consolidating, breaking counterattacks, and conducting aggressive counterfire.

CONTROL AND COORDINATION. Generally, the most critical task in amphibious operations is the early establishment ashore of FSCCs. The CLF exercises responsibility for the coordination of supporting fires through FSCCs and MACCS agencies. When FSCCs are ashore and operating effectively, control and coordination of supporting arms can be passed from the CATF to the CLF.

The nature of amphibious operations requires a formal system of passage of control to ensure that continuous fire support is provided to the LF. When confident that the necessary facilities, communications, and information are available to conduct coordination of fires within the GCE area of influence, the GCE commander informs the CLF by message. Similarly, when the ACE commander is confident that the necessary facilities, communications, and information are available, he also informs the CLF by message. Because various functions of aviation may be phased ashore incrementally, the ACE specifies those aviation functions that can be performed.

Air control is normally phased ashore as MACCS facilities become functional. The TADC and the DASC are normally the first major MACCS agencies established ashore. Frequently, the CATF will initially transfer control of OAS and retain control of other aviation functions. When this occurs, the CATF will apportion and allocate between the various mission requirements, just as the CLF does when he controls all air support. The CATF then provides an allocation of sorties

for OAS to the CLF, who distributes sorties to subordinate commanders. The process is usually repeated every 24 hours. The LFFSC in the SACC must ensure that the CATF's staff is aware of the LF's projected requirements for the next 24 hours when the CATF makes the apportionment decision.

As the GCE and the ACE C² elements are being established ashore and as the tactical situation permits, the MAGTF CE begins establishing the MAGTF command operations center ashore. Some LF/MAGTF FSCC personnel move ashore and establish the LF/MAGTF FSCC. Remaining LF/MAGTF personnel continue to man spaces in the SACC to assist the SAC in fire support coordi-

nation. When the LF/MAGTF CE is ashore and it and the GCE and ACE command and control facilities are functional, the CLF submits a request to the CATF to assume responsibility for supporting arms coordination. The CATF will indicate approval of the transfer of control and coordination by formal message. Upon approval of the passage of control and overall responsibility of supporting arms, the CLF will complete the sequence by notifying the GCE and ACE of the date and time specified for the passage to occur. At the specified time, the TADC will become the Marine TACC, and the Navy TACC and SACC will revert to a back-up status to the MACCS and FSCC in the AOA.

The Marine Corps' warfighting doctrine is based on rapid, flexible, and opportunistic maneuvers. Maneuver forces seek to shatter the enemy's cohesion through a series of rapid, violent, and unexpected actions. Marine Corps air operations support MAGTF operations. The combined arms concept integrates various combat arms to maximize combat power. This power presents the enemy with a no-win situation. To reduce vulnerability to one arm of the combined power, the enemy must become vulnerable to another. The organization employed to accomplish this is the MAGTF, with C² of air-ground tasks supplied by the MACCS and the fire support coordination system. The Marine Corps' unique organization allows forces to operate as a TAGS within a TAGS.

CHAPTER 6

SPECIAL OPERATIONS COMPONENT

Special operations are those that specially trained, equipped, and organized forces conduct against strategic or tactical targets using nonconventional means in hostile, denied, or politically sensitive areas. They are conducted in pursuit of military, political, economic, or psychological objectives during periods of peace or war. They may be undertaken independently or in support of conventional operations. The integration of SO into the TAGS is a complex process that includes specially equipped aircraft, uniquely trained ground forces, increased operational security measures, and extensive liaison among components. Special operations forces may provide their own air support, utilize air support of any service component, or provide air support for use by conventional forces.

MISSIONS

The five principal SO missions are unconventional warfare (UW), direct action (DA), special reconnaissance (SR), foreign internal defense (FID), and counterterrorism. SO missions may also include collateral activities and multinational support. While SOF are unique, versatile, flexible, and designed primarily to meet these missions, conventional forces, including air power, may be tasked for support depending on mission circumstances.

UNCONVENTIONAL WARFARE

UW includes guerilla and other low-visibility, covert, or clandestine operations, as well as subversion, sabotage, intelligence collection, and evasion and escape. It delays and disrupts hostile military activities, interdicts lines of communications, denies unrestricted use of key areas, diverts attention and resources from the main battle area, and interdicts war-fighting capabilities. Properly integrated and synchronized, UW can extend the depth of air, sea, or ground battles and complement or enhance conventional operations.

DIRECT ACTION

Units conducting DA operations may employ raid, ambush, or direct-assault tactics; emplace munitions and other devices; conduct standoff attacks by fire from air, ground, or maritime platforms; provide terminal guidance for precision-guided munitions; and conduct independent sabotage. Normally limited in scope and duration, DA is designed to achieve specific, well-defined, and time-sensitive results. Although normally thought of in terms of ground or maritime close-combat operations, DA can include standoff attacks by weapons delivered or terminally directed by SOF.

SPECIAL RECONNAISSANCE

SR complements national and theater intelligence-collection assets and systems by obtaining

specific, well-defined, and time-sensitive information of strategic or operational significance. SR is a human intelligence function that, when authorized, places "eyes on target" in hostile, denied, or politically sensitive territory. SR functions include target acquisition of troop concentrations, lines of communications, and special weapons; meteorological, geographic, demographic, and hydrographic reconnaissance; and poststrike reconnaissance.

FOREIGN INTERNAL DEFENSE

FID operations support a friendly government facing a threat to its internal stability and security. They are joint, interagency, and multinational by nature and require extensive synchronization of assets.

COUNTERTERRORISM

The primary mission of SOF in this interagency activity is to apply highly specialized capabilities to preempt or resolve terrorist incidents abroad.

COLLATERAL ACTIVITIES

Collateral activities in which SOF, by virtue of their inherent capabilities, may selectively be tasked to participate include security assistance, humanitarian assistance, antiterrorism and other security activities, counterdrug operations, and personnel recovery. SOF can conduct these activities only at the expense of their primary missions.

MULTINATIONAL SUPPORT

SOF may be required to execute unilateral operations or apply their unique characteristics to provide liaison to multinational partners. By so doing, they facilitate interoperability between US and allied forces.

COMPONENT OPERATIONS

SO are marked by certain characteristics that cumulatively distinguish them from conventional operations. They—

- Are principally offensive; usually of high physical and political risk; and directed at high-value, critical, and perishable targets of a political-military nature. They are frequently covert, clandestine, or low visibility and are prosecuted when the use of conventional forces is inappropriate or infeasible for either military or political reasons.
- Rely on surprise, security, audacity, and deception to achieve success. They often require responsive joint C² organization with detailed intelligence preparation, as well as thorough planning, decentralized execution, and rigorous detailed rehearsal.
- Are often conducted at great distance from established support bases, requiring sophisticated communications and means of infiltration and support to penetrate and recover from hostile or politically sensitive areas. SO frequently require discriminate and precise use of force. They are primarily conducted by specially selected and trained personnel organized into small units tailored for the specific mission or environment.
- May require patient, long-term commitment in a given operational area to achieve national goals through security assistance/nation-building activities or extended UW operations.
- Are inherently joint and frequently require integration with other US agencies or combined forces. Although SO may be conducted as single-service operations, they routinely require detailed coordination along functional rather than service lines. Even single-service SO require joint support and coordination. SOF, even at team and unit levels, are routinely involved in planning for and conducting joint operations.

PLANNING

Based on guidance from the JFC, the JFSOCC allocates forces against strategic or operational tasks and in support of other component commanders. The JFC may task the JFSOCC to conduct normal SO missions or other activities, which can include coordination of PSYOP, civil affairs, and coalition support-related activities. The JFSOCC anticipates theater requirements that SOF could address and recommends to the JFC proactive operations to satisfy those requirements. SO must be coordinated and integrated with conventional operations to enhance mission accomplishment and prevent fratricide. Comprehensive coordination and integration of SO through interface with the TAGS are essential. During war, SOF will normally require support from conventional air assets and may provide support to conventional air operations. Support from conventional assets may include extra refueling during deployments or

long-range missions, SEAD, diversion of enemy forces, increased airlift capability, or ensuring air and ground defenses for security of landing zones or forward arming and refueling points. EW or SEAD, along with CAS, may be required for SO infiltration or exfiltration missions. Regardless of command relationships, integrating conventional aviation assets into SO profiles requires advance planning and extensive coordination. SOF normally operate on extended planning time lines, which should be fully considered during coordination. Long planning times are based on the increased intelligence-gathering activities, detailed planning, and rehearsals that surround many SO missions. Because of the longer lead times, planning for and receiving support from other components is relatively easy. More difficult is for other components that operate on shorter planning schedules to receive support from SOF.

SPECIAL OPERATIONS FORCES

Due to the wide variety of missions SOF may be called upon to perform, each of the services has organized SOF that are provided to the various

combatant commanders and JFC as required. All services maintain special mission units for the National Command Authorities' use.

US ARMY

US Army SOF consist of special forces, ranger, special operations aviation (SOA), psychological operations (PSYOP), and civil affairs as well as signal and support units.

SPECIAL FORCES. Special forces plan, prepare for, and deploy to conduct UW, FID, SR, DA, and counterterrorism missions in support of national policy and theater campaign plans. Operational Detachment A (ODA) is the basic operational unit within special forces. Special forces ODAs are organized, trained, and equipped to conduct special operations in denied and remote areas for extended periods with little external direction and support. They conduct terminal guidance operations (TGO) and provide battle damage assessment.

RANGER UNITS. Ranger units are elite light infantry units that conduct attacks to temporarily seize key objectives and other light infantry operations requiring their unique capabilities. They can infiltrate areas by land, sea, or air. Ranger units normally are employed in battalion or in multibattalion formations. Missions are normally of short duration and include a planned withdrawal or relief by other forces.

AVIATION UNITS. SO aviation units are specialized Army aviation assets dedicated to the conduct of SO activities such as the A/MH-6, the MH-60, and the MH-47. They are organized into both single aircraft and composite type organizations that provide a mix of light- and medium-lift and limited light-attack capabilities. They are capable of supporting SOF or conventional forces in all principal and collateral mission areas and can conduct autonomous SR and DA missions. Selected SOA aircraft are specifically configured to provide suppressive fires. SOA units—

- Infiltrate, exfiltrate, and resupply SOF by clandestine penetration of hostile, denied, or sensitive airspace with great precision for extended ranges and during adverse flying conditions.
- Conduct light attack, light lift, reconnaissance and surveillance, EW, personnel recovery, medical evacuation, and mine-dispensing and support airborne command, control, and communications (C³).
- Provide control of close-in and indirect fire support and terminal guidance for precision munitions.

PSYCHOLOGICAL OPERATIONS UNITS. PSYOP units are used to demoralize the enemy

by causing dissension and unrest while at the same time convincing the local population to support friendly troops and objectives. PSYOP units accomplish their mission by disseminating propaganda messages in the form of leaflets, posters, broadcasts, and audio-visual tapes. Other component aircraft are normally involved in the distribution of PSYOP materials.

CIVIL AFFAIRS UNITS. Civil affairs units are designed to prevent civilian interference with tactical operations, to assist commanders in discharging their responsibilities toward the civilian population, and to provide liaison with civilian government agencies.

US AIR FORCE

The Air Force Special Operations Command provides support personnel for SOF use. Care should be exercised when employing Air Force special operations forces (AFSOF) in high air defense artillery threat areas.

SPECIAL TACTICS TEAMS (STTs). STTs consist primarily of SO combat control and pararescue personnel. They are organized, trained, and equipped to facilitate the air-ground interface during SO missions. SST duties include separation of aircraft at assault zones during the delivery and recovery of force packages. An SO terminal attack controller (SOTAC) or TACP may conduct CAS deconfliction and ordnance delivery in support of SO missions. SOTACs may deploy with an SO force package for the primary purpose of providing control of CAS missions. In addition to providing air traffic control in austere and nonpermissive environments, STTs operate forward arming and refueling points; designate targets; assist in offensive attack and demolition operations; provide human intelligence, airfield reconnaissance, personnel recovery, and advanced trauma care; coordinate evacuation operations; and perform selected aircrew duties.

GENERAL PURPOSE FORCES. Certain general purpose forces may receive enhanced training and may be equipped and organized to conduct missions in support of SO. These improvements are principally designed to enhance the primary combat capability of conventional forces or to support SO as required.

US NAVY

Specific Navy forces are prepared and task-organized to conduct SO. Additionally, other surface, subsurface, and aviation units receive enhanced training and equipment to support SO.

SEA-AIR-LAND (SEAL) TEAMS. SEAL teams are a maritime multipurpose combat force organized, trained, and equipped to plan, conduct, and support a variety of SO in all operational environments and levels of conflict.

SEAL DELIVERY VEHICLE TEAMS. These units are organized, trained, and equipped to operate

and maintain combat submersible systems in maritime and riverine environments.

SPECIAL BOAT UNITS. Special boat units operate a variety of surface combatant craft to conduct and support naval SO. The craft most frequently employed are offshore open-water fast patrol boats and shallow-draft riverine patrol craft.

SPECIAL OPERATIONS AIRCRAFT

The Air Force Special Operations Command also maintains and operates aircraft—including specially equipped fixed- and rotary-wing aircraft—for SOF use.

INFILTRATION/EXFILTRATION AIRCRAFT

AFSOF infiltration/exfiltration aircraft include the MC-130 E/H Combat Talon and the HC-130 Combat Shadow fixed-wing aircraft and the MH-53J Pave Low and the MH-60G Pave Hawk rotary-wing aircraft. All are equipped for deep penetration of hostile areas and are configured to meet varying degrees of threat environments, adverse weather, and blacked-out drop or landing zone operations. AFSOF are trained and equipped to conduct precision navigation to precise time schedules. They routinely practice terrain-following and terrain-avoidance tactics to enhance undetected operations.

REFUELING AIRCRAFT

Certain fixed-wing, long-range AFSOF assets (MC130/HC-130) are equipped to refuel rotary-wing aircraft in flight to extend their range. Additionally, most AFSOF fixed-wing aircraft may be refueled by conventional fixed-wing tankers.

GUNSHIPS

AC-130A/H/U Spectre gunships are equipped with a variety of sensors and weapons to acquire and engage static and moving targets in both air interdiction and CAS roles or to provide armed escort. Aircrew training and avionics capabilities allow these aircraft to function at night and in adverse weather.

COMMANDO SOLOS

EC-130E Commando Solos are specially equipped to conduct PSYOP by providing airborne television and radio broadcast services.

JOINT FORCE MULTIPLIERS

SOF are routinely utilized in joint configuration because this can dramatically increase their combat multiplier effect. Leveraging the unique and flexible capabilities of SOF, specifically as it affects the interface of air-ground operations, can be accomplished in many ways that support the JFC's overall campaign.

TERMINAL GUIDANCE OPERATIONS

TGO are electronic, mechanical, visual, or other assistance given to aircraft, missiles, ships, and artillery elements to facilitate target destruction by ground elements. They may be conducted independently or in conjunction with conventional forces. They make joint air interdiction and SOF ground operations complementary. Enemy mobile high-payoff targets that are difficult to locate from the air are often visible to ground SOF. Small ground SOF elements can search for, verify the presence of, and precisely report the location of

high-payoff targets. Global positioning systems, laser designation systems, various beacon systems, or combinations of the above provide target locations. When small SOF ground teams do not have the organic combat power to engage enemy targets without compromising their positions, strike aircraft or other long-range systems are designated to attack them. Ground SOF may provide precise battle damage assessment of high-payoff targets that otherwise may be obscured or hidden. These operations require extensive coordination between the joint force special operations component commander (JFSOCC) and JFACC staffs. Planning for and conducting terminal guidance operations involve two distinct phases. They are depicted in Figures 6-1 and 6-2.

CLOSE AIR SUPPORT

SOF use the term *deep close air support* when referring to close air support. This term is an SF-

unique term and not an approved service or joint term. However, while the terminology is different, the end result is the same. *Deep close air support* highlights SO-unique requirements for CAS support of a SOF unit conducting operations deep in enemy territory. Deep CAS is air action, normally in emergency situations, requiring CAS procedural controls in support of SOF.

PLANNING CAS. CAS is normally preplanned for operations in the deep battle area. Detailed planning is required to have strike aircraft accompany a SOF infiltration, to conduct preplanned CAS missions, or to be on call during actions at an objective area. Missions of this type are carefully coordinated during the deploying SOF unit's mission planning procedures.

CONDUCTING CAS. For remotely deployed SOF units, requests for CAS will be passed through the most expedient, direct, and available means of communications. During mid- to high-intensity conflict, requests will normally be to an airborne platform such as an ABCCC or AWACS. To satisfy these requests, the ABCCC or AWACS will in turn coordinate.

PATHFINDER OPERATIONS

Special operations aircraft have unique precision navigation, limited visibility, and adverse flying condition capabilities, making them uniquely suited as pathfinders for other aviation forces lacking sophisticated navigational equipment.

SURGICAL OPERATIONS

SOF are well-suited to conducting surgical operations. Confirming, analyzing, and destroying high-payoff targets; rendering key targets or systems inoperable for temporary periods of time; or locating and coordinating destruction of concealed, perishable, or mobile targets are key SOF capabilities. Surgical operations normally require com-

prehensive planning, detailed coordination, and realistic rehearsals. Even with comprehensive preparation, surgical operations are frequently high-risk, and the value of the anticipated results must always be carefully balanced with associated risks. Specific targets or mission assignments for SOF should always contribute substantially to the strategic or campaign plan being executed.

ECONOMY-OF-FORCE OPERATIONS

SO involve commitment of relatively small forces to achieve key results and can preclude deployments of much larger numbers of conventional forces or allow them to be utilized for other missions. Unique capabilities, such as the ability to conduct undetected infiltration and exfiltration, allow SOF to be employed against key high-payoff targets that otherwise would require commitment of much larger conventional forces or other key resources. Ground SOF working with multinational forces can recommend efficient use of US air assets to meet ground force requirements and prevent allied force fratricide.

INTEGRATION OF AIR AND GROUND OPERATIONS

SOF can conduct numerous operations that enhance the TAGS and assist with fully integrating air and ground operations. They include—

- Coordinating support to multinational forces. Ground SOF, which routinely work with multinational forces, can be instrumental in ensuring that US air support is efficiently and appropriately provided in support of allied forces.
- Conducting PSYOP by dropping leaflets and specialized ordnance, and conducting airborne and ground-mounted broadcasting services.
- Conducting combat rescue operations.

COMMAND AND CONTROL

The CINC, US Special Operations Command (USSOCOM), maintains COCOM of SOF based in the continental United States. USSOCOM trains assigned forces in SO-unique subjects, develops and acquires SO-unique equipment and material, and provides these forces to the combatant commands. In certain situations, the NCA may direct USSOCOM to plan and conduct SO autonomously or as the supported commander. Theater combat-

ant commanders exercise COCOM over assigned SOF. The theater combatant commander normally exercises COCOM through a theater subordinate unified SO commander (the JFSOCC), but retains the option of placing SOF under other subordinate unified commanders, JTF commanders, or service or functional component commanders. The commander, special operations command (theater), is the JFSOCC for the theater combatant com-

mander. The JFSOCC, a functional component commander for SO with land, sea, and air components, normally exercises day-to-day operational control of assigned or attached SOF. The JFSOCC coordinates with USSOCOM for SOF-peculiar requirements, while theater service components retain responsibility for traditional service support to SOF.

SPECIAL OPERATIONS AVIATION

Because the JFSOCC maintains aviation assets from more than one service, the JFSOCC may elect to designate a JSOACC. This single spokesman for SOA is responsible for ensuring all SOA requests are satisfied by the best available air assets. The JSOACC ensures centralized planning, coordination, and deconfliction of all SOA. The JFSOCC will normally designate as the JSOACC either the service component commander providing the preponderance of aviation force or the commander most capable of conducting, commanding, and controlling operations within a given environment. The JSOACC is a subordinate commander within the JFSOC who is responsible not only for planning and executing joint SO but for coordinating and deconflicting SOA and conventional air operations. As such, the JSOACC is not a competitor to the JFACC. When a JFC designates a JFACC, the JSOACC will coordinate his activities with the JFACC to ensure deconfliction and unity of effort.

ARMY SPECIAL OPERATIONS

Army SOF exercise C² through several types of headquarters. An SF group headquarters can serve as a joint special operations task force (JSOTF) or as the Army component of a JSOTF when augmented by resources from other services. An SF group can establish a special forces operations base, subordinate forward operations bases, and

advanced operations bases. Ranger C² is normally executed through conventional Army combat arms-type headquarters. Rangers can provide personnel and equipment to support the JSOTF C³ functions. In the context of TAGS, ranger units and Headquarters, Special Forces Command have US Air Force TACPs assigned. These forces conduct all conventional TACP duties and provide a variety of liaison, advisory, and training functions for their hosts.

AIR FORCE SPECIAL OPERATIONS

AFSOF C² is executed through the AFSOC. The AFSOC is the Air Force service component of the joint force SO component. The AFSOC commander additionally can be designated as the joint SO aviation component commander (JSOACC), with augmentation from other services as necessary. The AFSOC may be further tailored into detachments or elements.

NAVY SPECIAL OPERATIONS

Naval special warfare C² is normally executed through a naval special warfare task group or a naval special warfare task unit. These organizations are flexible in size and composition.

CONVENTIONAL FORCES

For specific missions, the JFC may provide the SO commander certain other Navy, Marine Corps, Army, or Air Force aircraft. Normally these resources would be provided by or through the service component commander. These forces are provided on a mission-by-mission and priority-availability basis for a specified and usually short period of time. Aircraft must be capable of operating in hostile airspace, at low altitudes, and under conditions of minimum visibility, while navigating precisely within narrow time parameters to arrive at specifically defined targets.

COORDINATION AND LIAISON

Comprehensive, flexible, and effective coordination and liaison are crucial for SOF mission success. SO provides a SOLE to fulfill coordination and liaison requirements with the JFACC and other component commanders as required. The SOLE at an air operations center assists with the ATO and airspace coordination order generation and provides real-time mission support within an AOC and deconfliction of SOF with conventional air forces. The SOLE works for the SOF commander but is col-

located and continually coordinates with all operational and planning elements of the JFACC's AOC. SO coordinates with the joint force land, Army, and Marine Corps components to deconflict SOF and ground operations and to integrate efforts.

AIR MOBILITY ELEMENT

SO coordinates with the Air Force AME to monitor SO airlift requirements directed by the JFC's joint movement control center.

JOINT RECONNAISSANCE CENTER

SO is represented at the joint reconnaissance center (JRC) at the JFC's JOC. Because of SO involvement in both deep operations and infiltration/exfiltration of the deep battle area, areas of interest may overlap. The JRC may provide information that is key to SO mission planning, while SOF may be able to answer key JRC concerns during the conduct of ongoing SOF missions.

JOINT RESCUE CENTER

Personnel who are conversant in SOF mission areas and personnel recovery techniques and proce-

dures represent SO at the JRC. SOF assist in allocating assets among components. They also monitor missions in the JRC to assist in immediate personnel recovery planning, coordination, and execution.

NAVY TACC AND MARINE CORPS TACC

When appropriate, SO will additionally dispatch liaison elements to a Navy and/or a Marine Corps TACC. These centers may be afloat or ashore. However, if SOF operations anticipate crossing airspace controlled by a Navy or Marine Corps TACC, liaison elements normally will be employed to deconflict and integrate operations.

SOF provide the JFC with unique capabilities to conduct operations in the deep battle area. Because SOF share a common environment with the joint air forces, their efforts must be closely coordinated and integrated. As SO are inherently joint, comprehensive and fully integrated coordination and liaison efforts must be conducted to fully leverage SO capabilities and avoid fratricide.

CHAPTER 7

THEATER AIR-GROUND SYSTEM OPERATIONS

The preceding chapters describe how the JFC may organize and control the joint force and how the various components contribute to the TAGS. This chapter describes how the TAGS conducts air-ground planning, targeting, tasking, execution, and combat assessment. It concludes with a brief discussion of coordinating measures and air defense functions pertaining to the TAGS.

PLANNING AND EXECUTION

Component C² elements are combined to form the TAGS, as depicted in Figure 7-1. Joint force components must work together in planning and executing joint air operations that accomplish JFC-assigned missions, comply with JFC guidance, and satisfy various component commanders' requirements. The challenge to personnel working within TAGS is to operate a system responsive to all components and supported echelons to accomplish the JFC's campaign goals.

PLANNING

Figure 7-2 depicts a consistent methodology for conducting joint air operations. During this process, the JFC assigns missions and guidance, components determine air support requirements during target development, weaponeering determines appropriate assets, forces are allocated to requirements, a joint ATO is produced, air missions are executed, and results are evaluated. Following paragraphs expand on this process.

Each component is involved in this methodology. Components determine support requirements and make recommendations to the JFC. These recommendations drive the JFC apportionment decisions and joint force interdiction targeting process. Land and sea components plan operations and conduct targeting activities using the decide-detect-deliver-assess methodology. It is used at the Army and Marine Corps component level down through the lowest echelons. In addition to generating air support requirements, all components participate in operational planning and mission

execution. The JFACC, if appointed, performs a key role in this process as a focal point for planning, coordinating, and deconflicting joint air operations.

EXECUTION

Joint air operations begin when TAGS agencies receive the joint ATO. Execution of the joint ATO—a planning tool that establishes a flow of air power—is a dynamic process. TAGS C² elements monitor the battle and refine and revise the flow in response to the current situation. The joint ATO must be published and transmitted in sufficient time to allow aircraft preparation, mission planning, and coordination.

The JFACC is responsible for disseminating the JTO. He is also responsible for coordinating and integrating all current joint air operations and for providing centralized control, but not for real-time air control of joint air sorties or execution of airspace control functions. Supported components continue to validate and update target information for scheduled missions. They also coordinate SEAD, deconflict fires, and provide targets for assigned on-call missions. When a need arises that cannot be met with assigned on-call missions, supported commanders may make an immediate request, which will be satisfied at the expense of either scheduled or on-call assets. Priority is determined by the JFC's campaign plan and overall concept of operations.

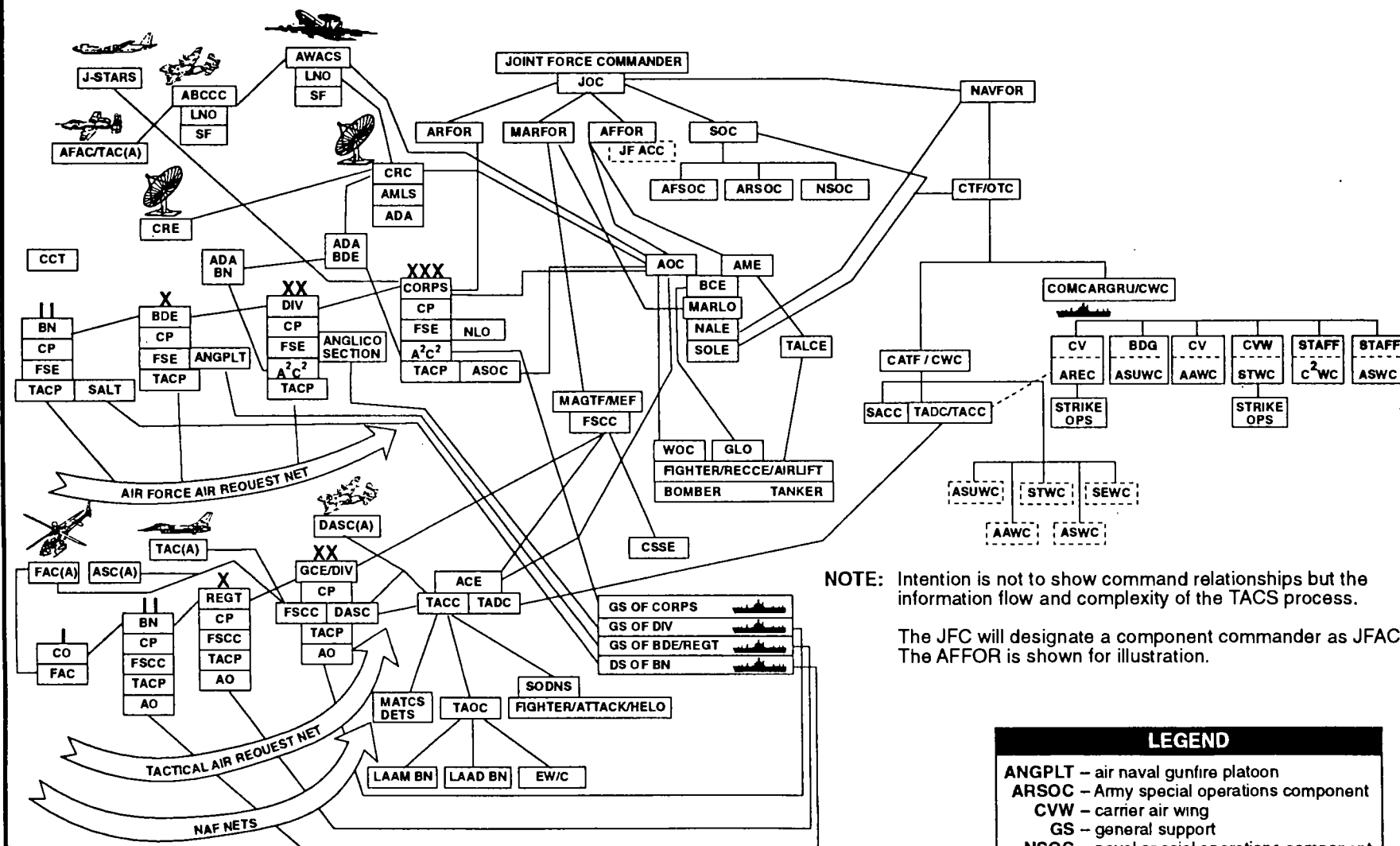
Figure 7-3 depicts a typical on-call CAS mission. A CAS example is used because it demonstrates the involvement of numerous TAGS elements.

JOINT FORCE COMMANDER GUIDANCE

The TAGS planning process begins at the highest national levels. Activities at the joint force level and JFC decisions establish the TAGS structure and steer its operation. The JFC influences TAGS

operations by assigning missions and apportioning forces. Apportionment is the determination and assignment of the total expected joint air effort by priority and/or percentage that should be devoted

FIGURE 7-1. TAGS Coordination Links



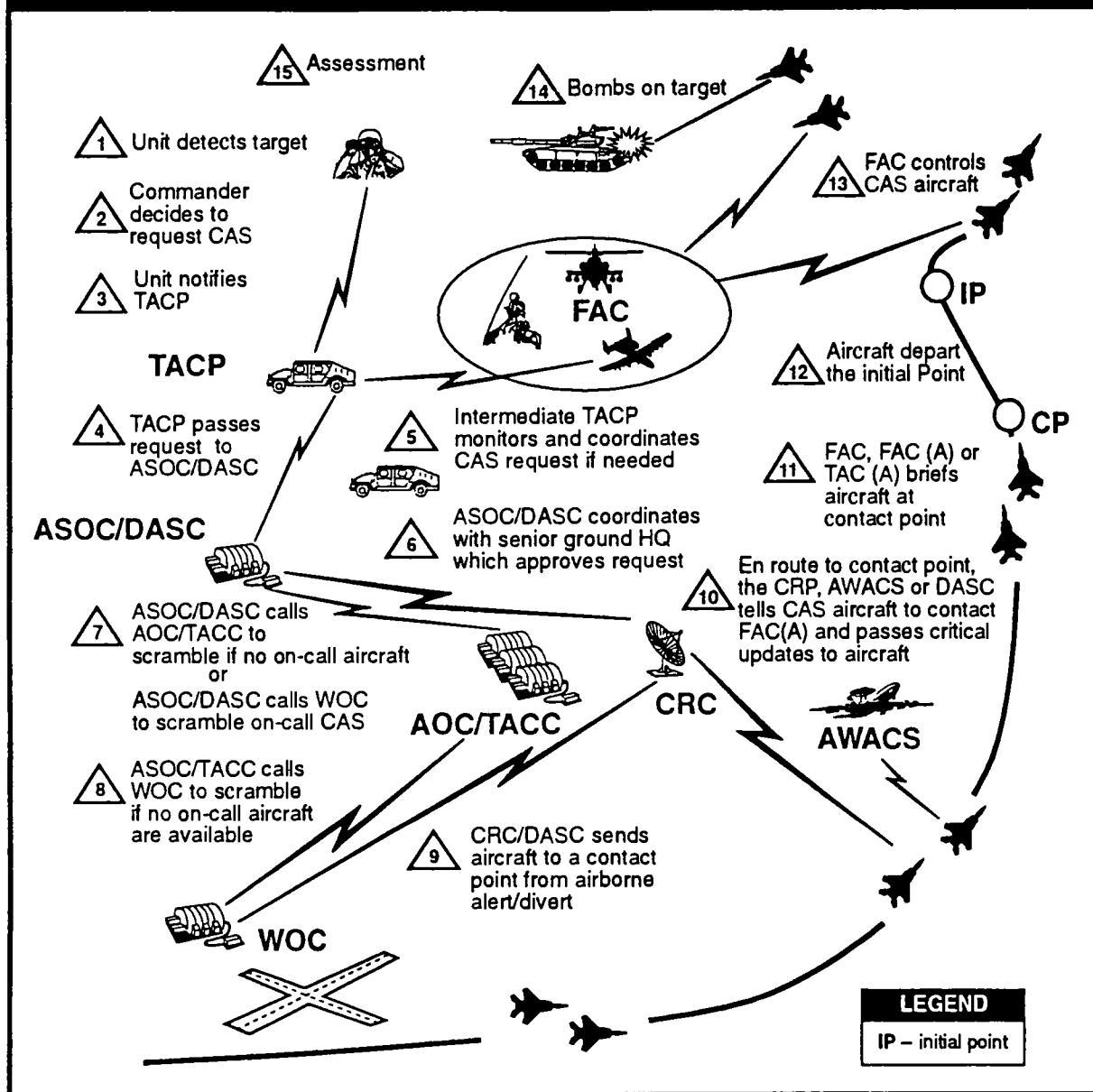
NOTE: Intention is not to show command relationships but the information flow and complexity of the TACS process.

The JFC will designate a component commander as JFACC. The AFFOR is shown for illustration.

LEGEND

ANGPLT – air naval gunfire platoon
ARSOC – Army special operations component
CVW – carrier air wing
GS – general support
NSOC – naval special operations component

FIGURE 7-3. CAS Mission Flow



TARGETING SUPPORT

The targeting process places great demands on intelligence capabilities. A particular command will rarely possess the capability to collect all necessary targeting intelligence and must compete for intelligence collection assets. Components nominate intelligence requirements to the JFC and priorities are established for intelligence collection tasking, data fusion, and CA collection and analysis. The massive amount of data produced creates intelligence fusion problems. The target-

ing effort may be supported more effectively by accepting less-than-desired certainty. For example, if 75 percent certainty of a target location from two sources rather than 98 percent certainty from all-source analysis is acceptable, less burden is placed on the system. Components should be aware of the following intelligence collection agencies.

NATIONAL. National-level intelligence collection agencies include the Defense Intelligence Agency (DIA), National Security Agency (NSA),

Central Intelligence Agency (CIA), Central Imagery Office, and Department of State. Each has a responsibility to support military requests for intelligence gathering. These national agencies task technical intelligence collection systems, which can significantly contribute to joint operational needs.

JOINT. JFCs normally possess limited intelligence collection assets. Therefore, the JFC must request national intelligence agency support and direct support from component assets. The JFC requirements for national intelligence may be routed through the joint target steering group to the DIA (Joint Staff J2). The JFC's JIC is responsible for all intelligence production related to a theater. Augmented by the national intelligence organizations, the JIC supports targeting through all-source intelligence analysis of enemy target sets to determine enemy centers of gravity.

TARGET DEVELOPMENT

The TAGS targeting process begins in peacetime with the creation of a targeting data base derived from all-source intelligence analysis. Responsibility for the development and maintenance of target data bases rests with the theater JICs, DIA, and components. As tensions increase, the JFC and components update the data base and include enemy-order-of-battle data. Operational targeting commences as the JFC develops specific campaign objectives. Components develop operations plans and targeting requirements to support the JFC's campaign plan. All components are equipped with necessary intelligence capabilities and connectivity with the JIC to plan and execute operations in support of the JFC's campaign. Targets are selected from the standing target data base or emerge as a contingency develops. Each component has its own targeting procedures. These procedures are generally similar and involve the processes of decide-detect-deliver-assess, IPB, determination of enemy centers of gravity, and determination of high-value and high-payoff targets. Targets and desired effects may take a variety of forms. For example, the component may

wish to destroy a specific facility, such as a bridge (point target); on the other hand, a component may identify a mission target, such as delaying enemy reinforcement for a period of time (multiple targets).

TARGET REQUEST PROCESS

Following target development, components submit support requirements beyond their capability to a JFC-appointed agency. For example, components nominate interdiction targets to a JTCCB, if established, for review and prioritization. The JFC then assigns targets to the appropriate component for attack planning and coordination. Component responsibilities do not end at target nomination. They must continue to refine and update target information until desired results are achieved. This is particularly important for mobile targets. Mobile targets represent the most difficult problem facing intelligence and air operations planners. Anticipating when and where the target will be in the future requires the establishment of special cells and communications links to rapidly pass information to striking aircraft to ensure maximum effect. The ability to provide target updates and validation of mobile targets requires focused intelligence assets, a stable decision process, and efficient priority override procedures. A smooth flow of nominations, updates, and feedback is critical. The following standardized messages provide information exchanges necessary for the targeting process.

TARGET INFORMATION REPORT (TGTINFOREP). The TGTINFOREP is used by components to nominate targets, submit poststrike assessment information, and report data changes to existing targets. Components also use this message to recommend no-strike targets and to cancel or renew targets. Normally, components submit target nominations no later than 26 hours prior to the start of the joint air tasking day.

TARGET BULLETIN (TARBUL). The JFC uses the TARBUL to update the list of targets and restricted targets. The TARBUL keeps the entire joint force apprised of changes to the target list.

WEAPONNEERING

Once targeting development is complete, weaponneering determines the type and number of aircraft and munitions, proper fusing, and aim point to achieve the desired effect. The tasking

agency's intelligence and operations personnel, assisted by liaison elements, conduct weaponneering. The weaponneering process constitutes a large portion of the ATO development process.

ALLOCATION

At this point in the air operations process, the JFC has apportioned air assets to particular missions, and targets and air support requirements have been identified and weaponeered. The JFACC and air-capable components now determine the number of sorties available for tasking. The allocation process translates the JFC's apportionment into total numbers of sorties by aircraft type available for each operation/task. During allocation, component commanders providing sorties to the JFC for JFACC tasking will determine sortie availability for the tasking period.

SORTIE AVAILABILITY

A sortie is an operational flight by one aircraft. Sortie generation is based on many factors, including number of airframes, logistics, munitions, and aircrew availability. Planning factors allow flying units to operate at a certain sortie rate for a certain period of time—normally 30 days—without resupply. This planning includes the capability for a sortie surge, or an increased sortie rate, for a nominal period of time, normally one week. For example, a squadron consisting of 24 aircraft may be equipped and manned to fly a sustained three-sorties-per-aircraft-per-day rate for 21 days and surge to four sorties per aircraft per day for 7 days. This equates to 72 sorties per day at the normal rate and 96 daily sorties at the surge rate. If a unit surges beyond its planned capability, logistics stocks are depleted, maintenance is postponed and disrupted, and fatigue increases. Following an extended surge, a unit must recover and its sortie generation capability may fall below its sustained rate. If the unit returns to surge rate prior to recovery, its sortie generation capability may continue to fall and future recovery time will increase. Keep in mind, to achieve sustained or surge sortie rates, aircraft must fly. Aircraft awaiting tasking, on call or ground alert, detract from total sorties generated. The trade-off in sorties flown and ordnance on target must be remembered.

COMPONENT CONSIDERATIONS

In addition to the Omnibus Agreement, the following considerations pertain to the JFC's determination of sorties available for joint tasking.

CARRIER BATTLE GROUP AIR SUPPORT. As described in Chapter 5, when an AOA is established, the CATF maintains overall authority for operations within the AOA and exercises command authority over the entire ATF. The CATF will con-

solidate Marine Corps air requests within ATF resources and will internally obtain Navy air support from the supporting carrier battle group. The carrier battle group commander will inform the CATF if he is unable to support the CATF's requirements. The CATF will then submit his unfulfilled air support requirements to the joint ATO planning process. Once control is passed ashore, the MAGTF/commander will obtain air support from the aircraft carrier battle group or JFACC, as required. During sustained operations ashore, Marine Corps component aviation assets will be tasked as described in the Omnibus Agreement.

AIR FORCE CAPABILITY. All Air Force component assets, with the exception of airlift assets, will normally be available for JFACC tasking. Airlift will remain an Air Force component responsibility and will be requested and tasked through the AME located with the Air Force component AOC. The Air Force AOC and AME will coordinate planned airlift operations with the JFACC/ACA/AADC. Initial combat search and rescue (CSAR) is currently a service responsibility. The JFACC, if designated, will coordinate with the JRC and component rescue coordination center as appropriate for the conduct of air CSAR operations. Appropriate assets may be diverted from JFACC tasking for rescue missions as coordinated with the JFC's joint rescue center.

SPECIAL OPERATIONS FORCES CAPABILITY. Normally, all SOF operations are planned, controlled, and executed by the JFSOCC. SOF will not normally be tasked to conduct joint air operations per se. However, because SOF operate deep, planners must consider the ongoing and future operations of all components to take advantage of operational synergies.

ALLOCATION PROCESS

Allocation is accomplished through exchange of air allocation/request (ALLOREQ) messages between components. These messages address three areas:

- How the service components plan their organic support missions and internal requirements as a result of the JFC's apportionment decision. The ALLOREQ message details how the supporting components meet requirements and specific targeting requests (desired timing and impact point) outlined in the air

support request (AIRSUPREQ) messages from the supported components. The number of sorties to be flown during the air tasking day is reported by assigned mission and type of aircraft.

- Sorties not needed by the service component and available to the JFC for tasking by the JFACC.

- Requests for additional air support beyond the capability of the service components.

CAS SORTIE DISTRIBUTION

The ground component commander makes the distribution decision, which is a further subdivision of the allocation process in which sorties allocated to CAS are distributed among the various ground combat units.

AIR TASKING ORDER PRODUCTION

Based on JFC apportionment, force allocation, and targeting guidance, the JFACC develops the daily plan for joint air operations or joint ATO. The joint ATO conveys C² instructions, coordination guidance, deconfliction instructions, and specific mission information. Mission information includes primary and backup targets, time-on-target (TOT) or alert windows, refueling data, radio frequencies, and weapons load guidelines. Daily planning for air employment is a complex process involving the factors depicted in Figure 7-4. Operations personnel in the AOC, ABCCC, ASOC, direct air support center, and other C² facilities use the joint ATO to monitor and assist in the execution of missions, to monitor supporting missions and activities, to manage unforeseen problems caused by the fog of war, and to respond to approved immediate support requests. The joint ATO helps to focus the intelligence collection management process for national, theater, and component intelligence assets. It is valid for a specified effective period—normally a 24-hour period; for example, 0600 local (L) hours to 0600L hours.

AIR TASKING CYCLE

The air tasking cycle is the interrelated series of actions that begins with the JFC's apportionment process and culminates in the publishing of a joint ATO. A notional air tasking time line, depicted in Figure 7-5, may be modified to fit the particular theater or scenario. All components should strive to use compatible planning cycles or be aware of anomalies in order to coordinate missions within an ATO cycle. While an ATO itself covers a specific period, the ATO planning process is continuous. At any given time, an air operations center and liaison elements will be working with three or more ATOs: executing the current day's operation; planning for tomorrow's operation; and forecasting, coordinating, and planning the following day's operations. The long-range planners, working on the third day out, develop apportion-

ment and air interdiction targeting recommendations to the JFC. The timing of the apportionment decision and ATO cycle allows the supported component commander to inform subordinates of their respective priorities for the tactical air effort.

AIR TASKING PROCESS

The joint ATO provides information required to accomplish preplanned missions by providing sufficient detail to enable mission aircrews to execute these missions. The joint ATO is developed through an interactive coordination process among supported and supporting components.

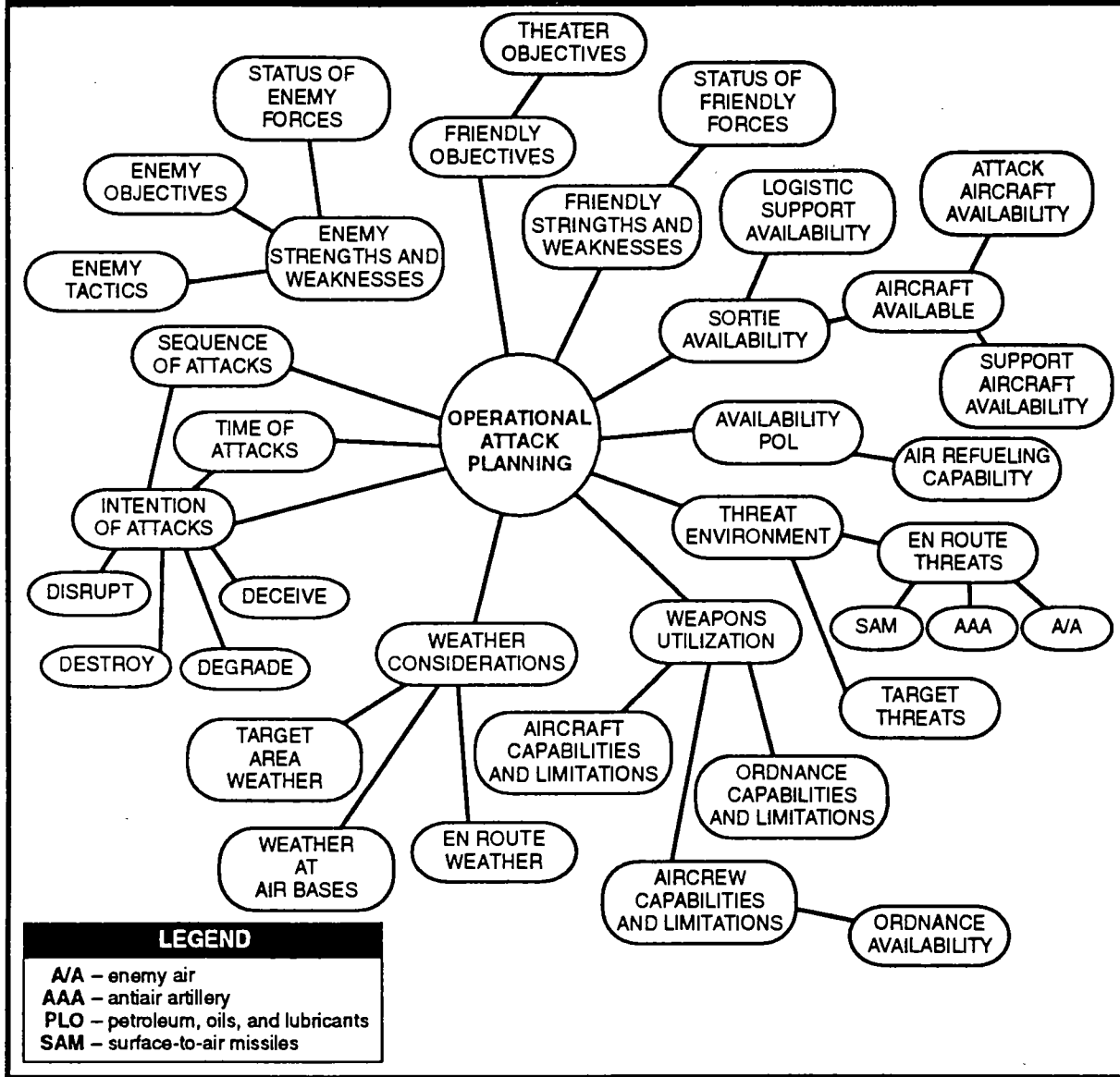
APPORTIONMENT. Apportionment guidance is normally received 36-48 hours before the beginning of the air tasking day and begins the air tasking cycle.

GUIDANCE AND INTENTIONS MESSAGE. The JFACC may decide to send a guidance and intentions message, which will translate the JFC's macro-level air apportionment guidance to the components. This message will usually give flying units a "heads-up" on what they will be tasked to fly. Based on this message, the units will respond with ALLOREQs to tell the JFACC just what they will be able to support.

AIR SUPPORT REQUEST. Supported components of the joint force prepare preplanned mission requests for the next air tasking day with the AIRSUPREQ message. These are transmitted to the air operations center not later than 24 hours prior to the air tasking day (0600L). Requesters should understand the terms *preplanned*, *immediate*, *scheduled*, and *on-call*.

- *Preplanned* and *immediate* refer to the requests themselves. Preplanned requests are those submitted in time to be included in the published joint ATO. Immediate requests fulfill operational requirements that are too late to be published in the daily joint ATO.

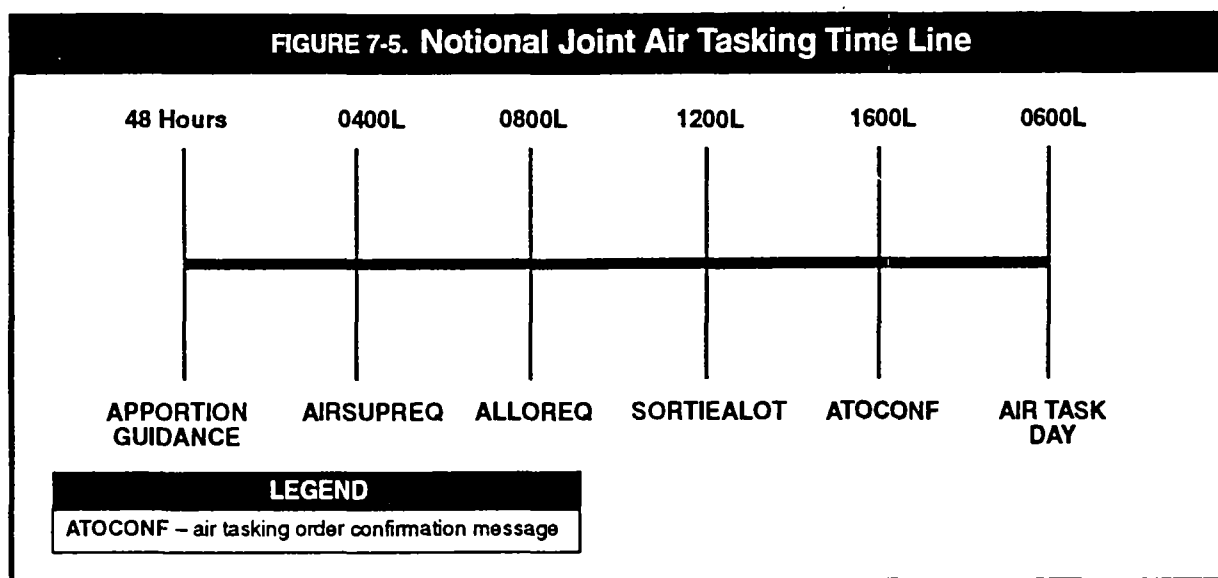
FIGURE 7-4. Air Tasking Order Planner Considerations



- *Scheduled* refers to missions with a set or scheduled TOT.
- *On-call* missions are those without a specific TOT. They involve aircraft placed on an appropriate alert status and then employed when requested by the supported unit. Aircraft used to fill immediate requests normally come from on-call missions established for this purpose. Supported commanders are advised to submit preplanned requests for on-

call missions to ensure availability of sufficient sorties with appropriate ordnance to respond to subordinate units' immediate requests.

AIR ALLOCATION/REQUEST. This message refers to the allocation process discussed earlier. Upon receipt of AIRSUPREQ messages, each supporting component prepares an ALLOREQ message for transmission to the JFACC not later than 24 hours prior to the air tasking day.



SORTIE ALLOTMENT. The JFACC reviews each service component's ALLOREQ message and prepares a sortie allotment (SORTIEALOT) message for transmission 18 hours prior to the air tasking day (1200L). This message informs all commands which mission requests will be fulfilled and which will be delayed during this cycle. The contents of the SORTIEALOT message are approved by the JFACC prior to transmittal. The SORTIEALOT message addresses four issues:

- Revisions to a service component's planned allocation of sorties due to unforeseen joint force requirements.
- Approval/disapproval of service component requests.
- Allotment of service component sorties made available to the JFC for JFACC tasking. (Note: The sorties provided to the JFACC for tasking are considered returned to the parent service component if the JFACC does not allot them in an appropriate SORTIEALOT message.)
- Revisions to mission data for service component requests, such as a changed mission priority or TOT—usually the result of informal coordination between service components and the JFACC.

TASKING/CONFIRMATION. Twelve hours before the air tasking day begins (1800L) the JFACC

transmits the entire plan for the tasked day's operation. This may be accomplished using either an ATO/confirmation message (normally referred to as the ATOCONF) or the request confirmation message (normally referred to as the REQCONF). The airspace control order (ACO), discussed later in this chapter, is often transmitted with an ATO

COORDINATION. As additional information regarding the requested mission becomes available, the requesting service component will forward the information to the tasked service component using an AIRSUPREQ message.

COMMUNICATIONS

The entire ATO process is communications intensive and dependent. The service component with JFACC responsibility is responsible for establishing communications links to support the JFACC mission. The services have recently adopted the Contingency Theater Air Control System Automated Planning System's (CTAPS) ATO production and dissemination software as the joint standard software for tasking air missions. Approved US message text format allows interface with data processing communications systems. Communications are complicated when agencies use nonstandard formats to process requests or to transmit information.

COMBAT ASSESSMENT

National, theater, and tactical CAs are shared up and down the chain of command. CA results transcend military considerations into the national and international political arenas and are used at all levels, from the NCA to the lowest echelon, for future planning. Normally, the JFC J-2 dictates the actual dissemination guidelines for all reports. Whenever feasible, reports should be provided directly to the JFACC, JFC, and the initial requester to assist in air operations planning. CA collection requirements must be decided during target prioritization. Component commanders should recommend priorities for the CA efforts and/or areas for which they have responsibility. The CA effort should be a joint program designed to determine if the required target effects are being achieved for each of the components consistent with the JFC's overall concept. The introduction

of reconnaissance pod systems into the service component inventories and the retirement of dedicated reconnaissance aircraft will produce competition for the same airframes for CA missions or for the delivery of ordnance. An unprioritized CA collection effort may provide an unmanageable amount of information, may overwhelm the available analysis capability, and will not fulfill the commanders' requirements. Changes to the joint ATO must be closely coordinated with intelligence data collection so as not to waste limited assets that must be programmed in advance on targets that were not attacked as planned. A well-planned and prioritized effort by aircraft and unmanned aerial vehicles, overhead sources, and aircrew reports provides the JFC and senior levels of command a measure of success of the JFC's campaign.

COORDINATION MEASURES

Preceding paragraphs have explained the TAGS planning and execution process. This paragraph discusses measures used to coordinate and deconflict air operations. More information on doctrine and tactics, techniques, and procedures for airspace control can be found in Joint Pub 3-52 or in multiservice publications FM 100-103-1, FMFRP 5-61, ACCP 50-38, or TACNOTE 3-52.

BOUNDARIES

Boundaries facilitate coordination and deconfliction of component operations. In land and sea warfare, a boundary is a line by which areas between adjacent units or formations are defined. The JFC may define lateral, rear, and forward boundaries that are sized, shaped, and positioned to enable land or naval forces to accomplish their mission while protecting deployed forces. Theater air sorties are not constrained by surface boundaries per se; however, since the airspace above surface areas is used by all components of the joint force, JFCs establish airspace control measures.

FIRE SUPPORT COORDINATING MEASURES (FSCM)

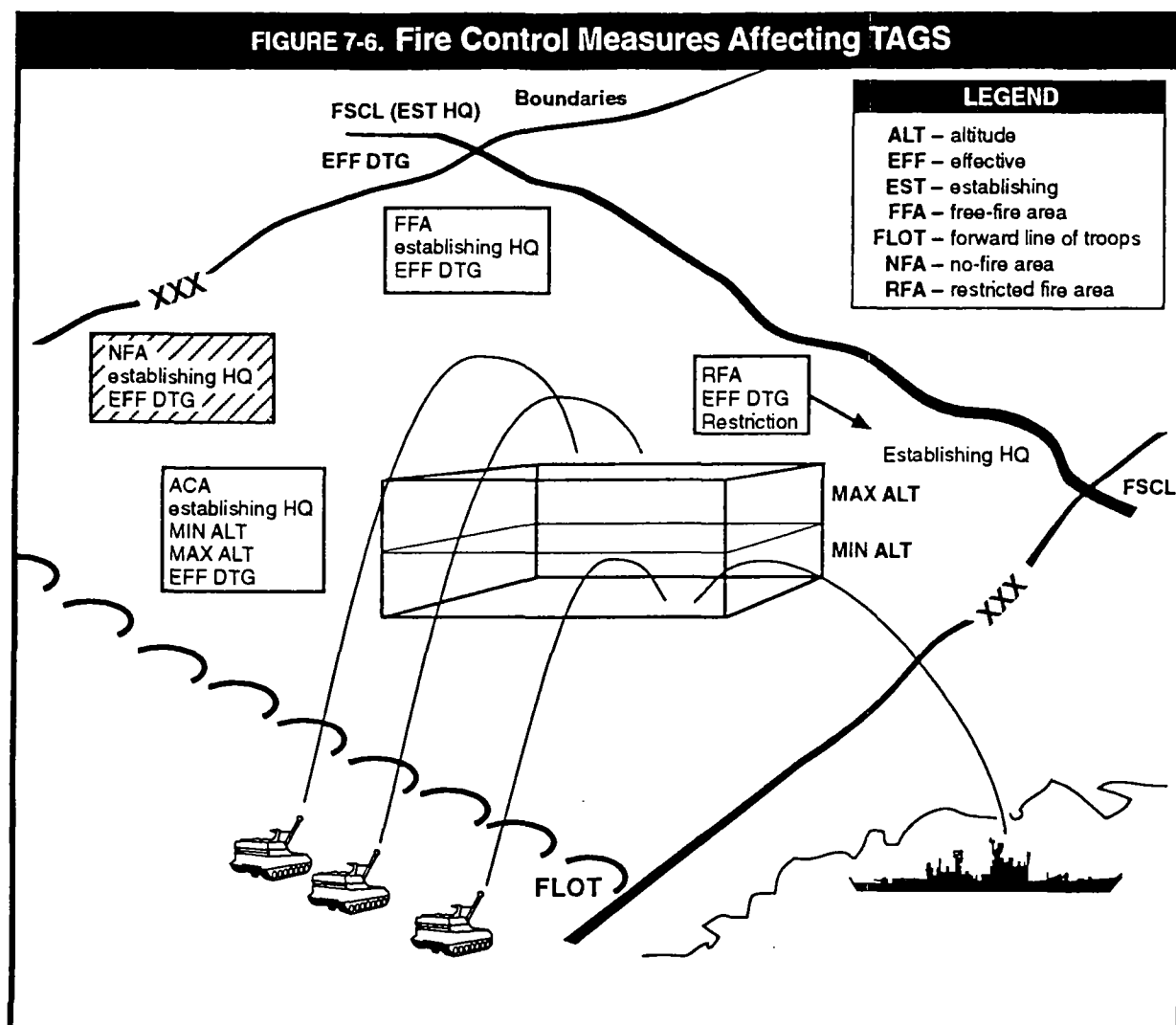
Personnel involved in planning, coordinating, and executing fire support operations understand the effects of FSCM placement. Air and ground commanders coordinate to ensure appropriate FSCM placement and purpose. FSCMs strike a balance between the need for rapid execution of

fire support missions and protection of the friendly force from its own fires. Within their boundaries, land and amphibious commanders employ permissive and restrictive FSCMs to enhance the expeditious attack of targets; to protect forces, populations, critical pieces of infrastructure, and sites of religious or cultural significance; and to set the stage for future operations. Commanders position and adjust those FSCMs consistent with the operational situation and in consultation with superior, subordinate, supporting, and affected commanders. FSCMs that pertain to TAGS operations, which are discussed below, are depicted in Figure 7-6.

FIRE SUPPORT COORDINATION LINE.

The primary coordinating measure used in air-ground operations, the FSCL is a permissive fire support coordinating measure. FSCLs are established and adjusted by appropriate land force commanders within their boundaries in consultation with superior, subordinate, supporting, and affected commanders. Forces attacking targets beyond the FSCL must inform all affected commanders in sufficient time to allow necessary reaction to avoid fratricide, both in the air and on the ground. In exceptional circumstances, the inability to conduct coordination will not preclude the attack of targets beyond the FSCL. FSCLs facilitate the expeditious attack of targets of opportunity beyond the coordinating measure. Support-

FIGURE 7-6. Fire Control Measures Affecting TAGS



ing elements may attack targets beyond the FSCL, provided the attack will not produce adverse effects on, or to the rear of, the line. The FSCL is not a boundary. The coordination of operations on either side of the FSCL is the responsibility of the establishing commander out to the limits of the land force boundary. See Joint Pub 3-0 for more information.

FREE-FIRE AREA. The free-fire area is a specific, designated area in which any weapon system can fire or deliver munitions without additional coordination. It is normally established on identifiable terrain.

NO-FIRE AREA. Delivery of ordnance is prohibited in a no-fire area except when approved by the establishing headquarters or in self-defense.

RESTRICTIVE FIRE AREA. The restrictive fire area is an area in which specific ordinance restrictions are imposed.

AIRSPACE COORDINATION AREA. An airspace coordination area is a block of airspace in the target area in which friendly aircraft are reasonably safe from friendly surface fires.

AIRSPACE CONTROL

Airspace control must be flexible and capable of being changed to facilitate the execution of joint air operations. The JFC may assign overall responsibility for airspace control to an ACA, who has the capability to execute required responsibilities. The JFC determines ACA responsibilities. The ACA is responsible for coordinating and integrat-

ing the use of airspace within the designated joint force area. Individual component airspace C² organizations located within respective senior command facilities will be linked to the ACA. Centralized direction by the ACA does not imply assumption of operational control over any assets. Therefore, matters on which the ACA is unable to obtain agreement shall be referred to the JFC for resolution. The ACA coordinates the airspace C² system with that of the host nation and combined forces; assigns responsibilities; and develops procedures for planning, implementing, and executing the airspace control function. The ACA, based on the JFC's guidance, publishes the airspace control plan (ACP) and ACO.

AIRSPACE CONTROL PLAN. Every ACP will be unique and based on the objectives of the military operation, the capabilities and shortcomings of both friendly and enemy forces, and the contributions and complexities introduced by host nation and allied forces, as well as airspace access required by nonbelligerent aircraft. The ACP is implemented through the ACO.

AIRSPACE CONTROL ORDER. While the ACP provides the basic airspace control system and standing procedures, the ACO institutes daily airspace control procedures. The ACO contains modifications to guidance and/or procedures in the ACP, activates/deactivates procedural control measures, and updates positive control measures. The ACO provides essential information enabling control elements to regulate the airspace and to resolve real-time conflicts. The ACO is normally issued daily as Part 5 of the ATO's general remarks.

AIRSPACE CONTROL AREA. As a means of planning or of dividing responsibility, the ACA may designate airspace control areas—airspace that is laterally defined by the boundaries of an area of operations. These areas may be subdivided into airspace control sectors—those sections that facilitate the control of the overall ACA. Airspace control sector boundaries normally coincide with air defense organization subdivision boundaries. Airspace control sectors are designated in accordance with procedures and guidance contained in the ACP in consideration of service, host-nation, and allied airspace control capabilities and requirements.

JOINT PROCEDURAL AIRSPACE CONTROL MEASURES. Joint procedural airspace control measures are depicted in Figure 7-7.

Coordinating Altitude. A coordinating altitude separates fixed- and rotary-wing aircraft. The ACA approves the coordinating altitude, which is normally specified in the ACP. The ACA is the final approving authority for changes, which are requested through airspace coordination channels. Fixed- or rotary-wing aircraft planning extended penetration of this altitude, when possible, will notify the appropriate airspace control facility; however, approval acknowledgement is not required.

High-Density Airspace Control Zone (HIDACZ). An HIDACZ is an area of airspace in which employment of weapons and airspace users is concentrated. The zone has defined dimensions, which usually coincide with geographical features/navigation aids. The ground commander nominates an HIDACZ and the ACA approves it. Preplanned HIDACZs, which are based on threat, friendly operations, and minimum risk routes, are included in the ACP. The requesting authority normally controls access to air defense weapons status within an HIDACZ.

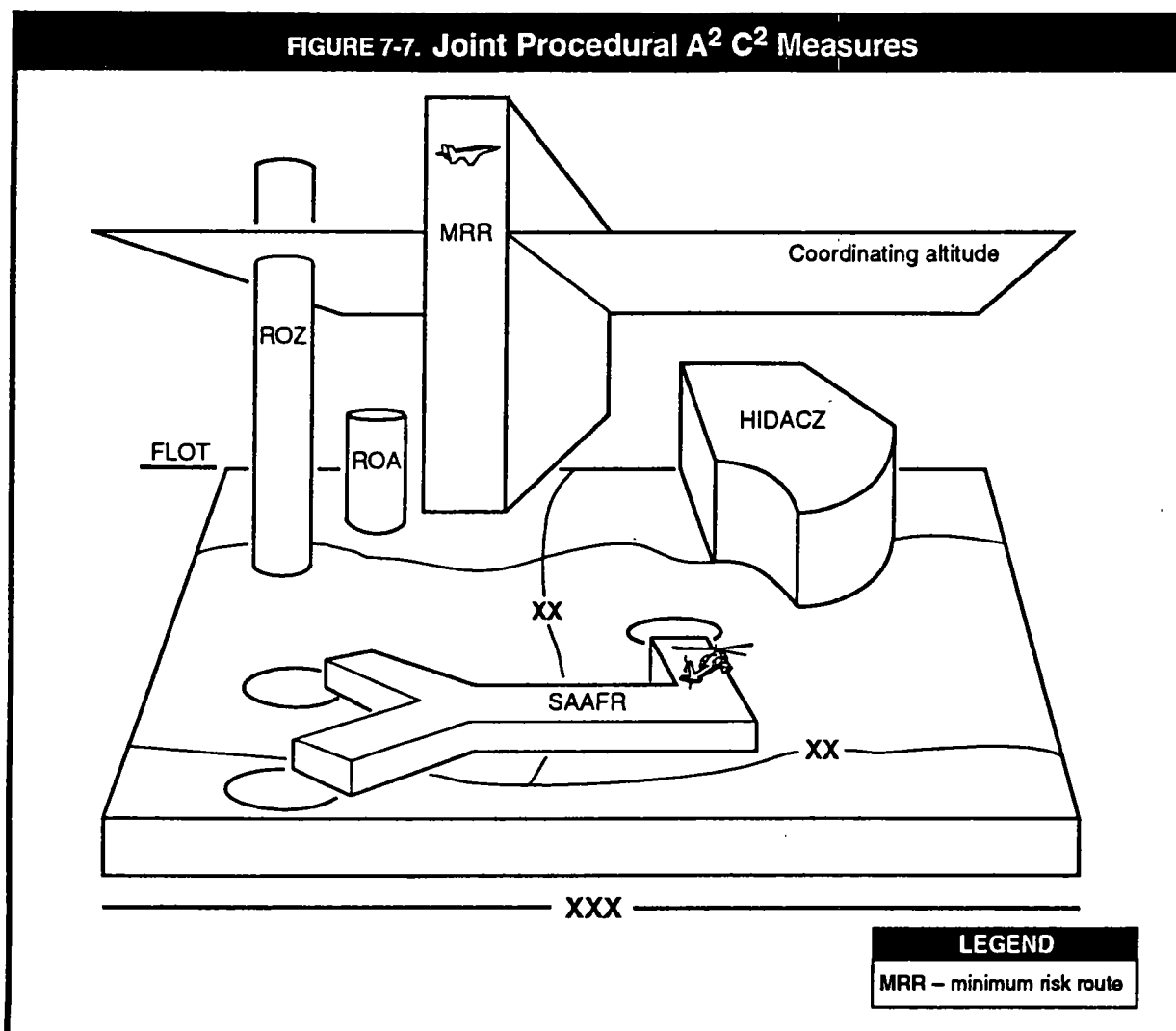
Restricted Operations Area/Restricted Operations Zone (ROA/ROZ). ROAs and ROZs are synonymous for defining a volume of airspace set aside for a specific operational mission. They are normally used for drop or landing zone activity, search-and-rescue operations, and so forth. Controlling authority requirements for the ROA/ROZ are similar to those required for an HIDACZ.

Minimum-Risk Routes. Minimum risk routes are temporary corridors recommended for use by high-speed, fixed-wing aircraft. These routes present the minimum known hazards to low-flying aircraft transiting the combat zone. The ground component commander recommends the routes and the ACA approves them. They normally extend from the corps rear boundary to the FSCL and may extend below the coordinating altitude.

Standard-Use Army Aircraft Flight Routes (SAAFRs). SAAFRs are established below the coordinating altitude to allow safe movement of aviation assets performing combat support and combat service support missions. These routes do not need ACA approval. They are normally located in the corps through brigade rear areas but may be extended to support logistics missions.

MARINE CORPS PROCEDURAL MEASURES

The JFC delineates an AOA for C². The ATF's objectives are located within this area, which must

FIGURE 7-7. Joint Procedural A² C² Measures

be of sufficient size to ensure accomplishment of the ATF's mission and provide sufficient area for conducting sea, land, and air operations. The airspace above is an integral part of the AOA. When disestablished, airspace control reverts to the ACA.

NAVY PROCEDURAL MEASURES

Airspace control requires the capability to positively identify and track friendly aircraft in defended airspace before it poses a threat to the vital area. Positive identification and radar advisory zone control are normally assigned to a Navy AAWC-controlled ship in the surveillance area.

RETURN-TO-FORCE PROFILE. The return-to-force profile delivers specific maneuvers/tracks that friendly aircraft will fly when returning to the fleet.

Instructions (altitudes, course, speed, ingress points, safety corridors, and approach sectors) are defined in operations messages generated by the AAWC.

JOINING PROCEDURES. Friendly nonorganic aircraft follow these instructions, which are similar to return-to-force procedures, in order to ensure safe passage through the fleet surveillance area en route to support fleet operations.

SPECIFIC PURPOSE AIRSPACE

CAP/ORBIT AREAS. Specialized aircraft (defensive counterair combat air patrols, airborne warning and control system, other special asset orbits, and so forth) use cap/orbit areas. Vertical and horizontal limits are defined along with times for initiation and completion.

SPECIAL OPERATIONS PROCEDURES. The JFC may establish JSOAs, which are essentially a combination of a ROZ and an RFA. JSOAs deconflict special and conventional operations.

They range in size to accommodate the special operations action. JSOAs are coordinated and published in the ACO.

AREA AIR DEFENSE

The objective of air defense is to limit the effectiveness of enemy offensive air efforts and permit freedom of action by friendly forces.

AREA AIR DEFENSE COMMANDER

The JFC will normally designate an AADC to coordinate and direct air defense operations. The AADC conducts those functions the JFC has delegated to him. Other service components provide representatives, as appropriate, to the AADC headquarters. The AADC coordinates and integrates all air defense efforts within the combatant command, including response to air breathing, cruise, and tactical ballistic missile threats. The AADC will establish broad policies and procedures for the coordination and employment of air defense.

AADC/ACA RELATIONSHIPS

The responsibilities of the AADC are interrelated with those of the ACA. Therefore, close coordination between the AADC and the ACA is essential.

AREA AIR DEFENSE OPERATIONS

The AADC, in coordination with component commanders, recommends establishment of air defense regions to the JFC. The number of regions may vary depending upon geographical, political, and operational factors. The AADC and other component commanders will also recommend appointment of regional air defense commanders and designation of areas of responsibility, taking into consideration such factors as friendly forces, geography, threat, and the concept of operations. The daily ATO and ACO contain air defense C² procedures, which include specific rules of engagement and supplemental weapons control measures. During the effective period of these orders, the AADC may change the air defense control procedures via a tactical operations data (TACOPDAT) message or voice communication, or local commanders may make them more stringent.

TACTICAL OPERATIONS DATA

The AADC uses the TACOPDAT message to establish air defense and anti-air warfare respon-

sibilities in a tactical area or to provide supplementary air defense or anti-air warfare orders to an area of responsibility, to include air defense procedures.

AIR DEFENSE CONTROL MEASURES

Air defense control measures consist of the joint, fighter, high-altitude missile, low-altitude missile, and short-range air defense engagement zones and the base defense zone.

JOINT ENGAGEMENT ZONE (JEZ). The JEZ is airspace of specified dimensions within which multiple air defense weapon systems (SAMs and friendly fighters) of one or more services are simultaneously employed and operated.

FIGHTER ENGAGEMENT ZONE (FEZ). FEZs will normally be established in those areas where no effective surface-to-air capability is deployed. Operations conducted within a FEZ usually take place in airspace above and beyond the engagement ranges of surface-based (land and sea), short-range air defense systems and are an alternative type of engagement operation if the detailed control aspects of joint engagement operations cannot be met. From an air defense perspective, they are normally used when fighter aircraft have the clear operational advantage over surface-based systems. From an airspace control perspective, the FEZ provides airspace users with the location of the engagement zone for fighter aircraft for mission planning purposes.

HIGH-ALTITUDE MISSILE ENGAGEMENT ZONE (HIMEZ). Normally applied to long-range surface-to-air missiles, a HIMEZ will limit the volume of airspace within which these weapons may conduct engagements without the AADC's specific direction. From an air defense perspective, it is normally used when a high-altitude missile system has a clear operational advantage over using aircraft. From an airspace control perspective, it provides airspace users with location of the engagement zone of a high-altitude missile system for mission planning purposes.

LOW-ALTITUDE MISSILE ENGAGEMENT ZONE (LOMEZ). A LOMEZ is a volume of airspace estab-

lished to control engagements of low- to medium-altitude surface-to-air missiles. Subject to weapon system capabilities, the LOMEZ will normally extend beyond the forward edge of the battle area.

SHORT-RANGE AIR DEFENSE ENGAGEMENT ZONE (SHORADEZ). Normally, SHORADEZs are established for the local air defense of high-value assets. Areas of SHORAD deployment may fall within a LOMEZ or HIMEZ. Some areas may possibly be defended solely by SHORAD assets. A SHORADEZ can be established to define the airspace within which these assets will operate. Because centralized control over the SHORAD weap-

ons may not be possible, these areas must be clearly defined and disseminated so friendly aircraft can avoid them. From an airspace control perspective, a SHORADEZ provides airspace users with location of the engagement zone of short-range air defense systems for mission planning purposes.

BASE DEFENSE ZONE. A base defense zone is a zone established around an air base limited to the engagement envelope of short-range air defense weapons systems defending that base. Base defense zones have established entry, exit, and identification friend or foe procedures.

The preceding chapters and paragraphs have described the joint force, service component, and functional component procedures and systems for air-ground operations. The TAGS is not a formal system in itself, but the actual sum of various component air-ground systems. The TAGS mission is to enable the delivery of the maximum amount of combat power to the desired place at the right time. To accomplish this, everyone working within the TAGS must understand each component's capabilities, limitations, and contributions to the overall system. Everyone must strive to make the TAGS work by knowing system and coordination requirements, what is required to make the system work, and who to contact when coordination is required. This document should assist TAGS practitioners in this process.

GLOSSARY**A²C²**

Army airspace command and control

A/A

enemy air

AAA

antiair artillery

AADC

area air defense commander

AAGS

Army Air-Ground System

AAW

antiair warfare

AAWC

antiair warfare commander

AAWS

antiair warfare section

ABCCC

airborne battlefield command and control center

A/C

aircraft

ACA

airspace control authority

ACC

Air Combat Command

ACC/XPJO

Air Combat Command, ATTN: XPJO

ACE

aviation combat element

ACO

airspace coordination order

ACP

airspace control plan

ACCP

Army Correspondence Course Program

ADA

air defense artillery

AF

Air Force

AFAC

airborne forward air controller

AFFOR

Air Force forces

AFSCOORD

assistant fire support coordinator

AFSOC

Air Force special operations component

AFSOF

Air Force special operations forces

AIRSPREQ

air support request

ALLOREQ

air allocation/request

ALO

air liaison officer

ALSA

Air Land Sea Application Center

ALT

altitude

AME

air mobility element

AMLS

airspace management liaison section

ANGLICO

air and naval gunfire liaison company

ANGPLT

air naval gunfire platoon

AO

air officer

AOA

amphibious objective area

AOC

air operations center

AREC

air resource element coordinator

ARFOR

Army forces

ARSOC

Army special operations component

ASC

air support controller

ASC(A)

assault support coordinator (airborne)

ASCS

air support control section

ASOC

air support operations center

ASUWC

antisurface warfare commander

ASWC

antisubmarine warfare command

ATACMS

Army Tactical Missile System

ATC

air traffic control

ATCS

air traffic control section

ATF

amphibious task force

ATO

air tasking order

ATOCONF

ATO confirmation message

AWACS

Airborne Warning and Control System

BCE	battlefield coordination element	COCOM	combatant command (command authority)
BDA	battle damage assessment	COMCARGRU	commander of the carrier battle group
BDE	brigade	COMMO	communications
BDG	building	COMP	component
BN	battalion	CP	command post
BOS	battlefield operating systems	CRC	control and reporting center
C²	command and control	CRE	control and reporting element
C²W	command and control warfare	CRP	control and reporting post
C²WC	command and control warfare commander	CSAR	combat search and rescue
C³	command, control, and communications	CSSE	combat service support element
C⁴	command, control, communications, and computers	CTAPS	Contingency Theater Air Control System Automated Planning System
C⁴CM	command, control, communications, and computers countermeasures	CTF	commander, task force
C⁴I	command, control, communications, computers, and intelligence	CV	aircraft carrier
CA	combat assessment	CVW	carrier air wing
CAS	close air support	CWC	composite warfare commander
CATF	commander, amphibious task force	DA	direct action
CCT	combat control team	DAS	deep air support
CDC	combat direction center	DASC	direct air support center
CE	command element	DASC(A)	direct air support center (airborne)
CG	cruiser	DCA	defensive counterair
CIA	Central Intelligence Agency	DETS	detachments
CINC	commander-in-chief	DIA	Defense Intelligence Agency
CLF	commander, landing force	DIRMOBFOR	director, mobility forces
CO	company	DIV	division
COC	combat operation center	DIVARTY	division artillery
		DS	direct support

DTG

date-time group

E²C

Navy airborne Warning and Control System

EAC

echelon above corps

EFF

effective

EST

establishing

ETAC

enlisted terminal attack controller

EW

electronic warfare

EW/C

early warning/control

FA

field artillery

FAC

forward air controller

FAC(A)

forward air controller (airborne)

FACP

forward air control post

FEZ

fighter engagement zone

FFA

free-fire area

FID

foreign internal defense

FIST

fire support team

FLOT

forward line of troops

FMFRP

fleet marine force reference publication

FOB

forward operational base

FOTC

force over-the-horizon coordinator

FSCC

fire support coordination center

FSCL

fire support coordination line

FSCM

fire support coordinating measure

FSCoord

fire support coordinator

FSE

fire support element

FSO

fire support officer

G2

intelligence section/officer

G3

operations section/officer

G4

logistics section/officer

GCE

ground combat element

GLO

ground liaison officer

GS

general support

GSM

ground station modules

HCS

helicopter coordination section

HDC

helicopter direction center

HELO

helicopter

HIMEZ

high-altitude missile engagement zone

HIDACZ

high-density airspace control zone

HPT

high-payoff target

HST

helicopter support team

HVT

high-value target

HQ

headquarters

IP

initial point

IPB

intelligence preparation of the battlefield

ITG

initial terminal guidance

J2

intelligence

J3

operations

J5

plans and policy

J6command, control, communications, and
computer systems**JAAT**

joint air attack team

JEZ

joint engagement zone

JFACC

joint force air component commander

JFC

joint force commander

JFSOC

joint force special operations command

JFSOCC

joint force special operations component commander

JIC

joint intelligence center

JIPTL

joint integrated prioritized target list

JMCC

joint maritime component commander

JOC

joint operations center

JRC

joint reconnaissance center

J-SEAD

joint suppression of enemy air defenses

JSOA

joint special operations areas

JSOACC

joint special operations aviation component commander

JSOTF

joint special operations task force

JSTARS

Joint Surveillance and Attack Radar System

JTCB

Joint Targeting Coordination Board

JTF

joint task force

JTO

joint tasking order

JTSG

joint targeting steering group

L

local

LAAD

low-altitude air defense

LAAM

light antiaircraft missile

LAI

light armored infantry

LF

landing force

LFFSC

landing force fire support coordinator

LNO

liaison officer

LOMEZ

low-altitude missile engagement zone

LZ

landing zone

MACCS

Marine Air Command and Control System

MACG

Marine air control group

MAGTF

Marine air-ground task force

MARFOR

Marine Corps forces

MARLO

Marine liaison officer

MATC

Marine air traffic control

MATCS

Marine air traffic control squadron

MAX

maximum

MEF

Marine expeditionary force

MEF(FWD)

Marine expeditionary force (forward)

MEU

Marine expeditionary unit

MIN

minimum

MPA

mission planning agent

MRR

minimum risk route

NALE

naval and amphibious liaison element

NAVFOR

Navy forces

NCA

National Command Authorities

NDC

Naval Doctrine Command

NFA

no-fire area

NGF

naval gunfire

NG REP

naval gunfire representative

NSA

National Security Agency

NSFS

naval surface fire support

NSOC

naval special operations component

NTACS

Navy Tactical Air Control System

OAS

offensive air support

OCA

offensive counterair

ODA

Operational Detachment A

OPCON

operational control

OPGEN

general operations message

OPLAN

operations plan

OPORD

operations order

OPR

office of primary responsibility

OPS

operations

OPTASK

operational tasking

OTC

officer in tactical command

PACAFP

Pacific Air Forces pamphlet

POL

petroleum, oils, and lubricants

PSS

plans and support section

PSYOP

psychological operations

PZ

pickup zone

RAOC

rear area operations center

RECCE

reconnaissance

REGT

regiment

RFA

restricted fire area

ROA

restricted operations area

ROE

rules of engagement

ROZ

restricted operations zone

S2

intelligence officer/section

S4

logistics officer/section

SAAFR

standard use Army aircraft flight route

SAAWC

sector antiair warfare coordinator

SAC

supporting arms coordinator

SACC

supporting arms coordination center

SALT

supporting arms liaison team

SAM

surface-to-air missiles

SEAD

suppression of enemy air defenses

SEAL

sea air land

SEMA

special electronic mission aircraft

SF

special forces

SFODA/B/C/Dspecial forces operational detachment-A, B, C,
or D**SHORAD**

short-range air defense

SHORADEZ

short-range air defense engagement zone

SO

special operations

SOA

special operations aviation

SOC

special operations component

SOCA

submarine operations coordinating authority

SOF

special operations forces

SOLE

special operations liaison element

SORTIEALOT

sortie allotment

SOTAC

special operations terminal attack controller

SPMAGTF

special purpose Marine air-ground task force

SQDNS

squadrons

SR

special reconnaissance

STT

special tactics team

STWC

strike warfare commander

TAADCOM

theater army air defense command

TAC

tactical air coordinator

TAC(A)

tactical air coordinator (airborne)

TACAIR

tactical air

TACC (USMC)

tactical air command center

TACC (USN)

technical air control center

TACNOTE

tactical note

TACON

tactical control

TACOPDAT

tactical operations data

TACP

tactical air control party

TACS

Theater Air Control System

TADC

tactical air direction center

TAGS

Theater Air-Ground System

TALCE

tactical airlift control element

TAOC

tactical air operations center

TARBUL

target bulletin

TGO

terminal guidance operations

TGTINFOREP

target information report

TGTINTELO

target intelligence officer

TIO

target information officer

TIS

target information section

TMD

theater missile defense

TOT

time on target

TVA

target value analysis

UAV

unmanned aerial vehicle

UNAAF

United Action Armed Forces

USAFAGOS

US Air Force Air-Ground Operations School

USAFEP

US Air Forces, Europe pamphlet

USSOCOM

US Special Operations Command

UW

unconventional warfare

WOC

wing operations center

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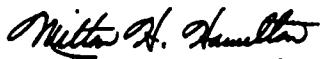
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